ITEMS OF INTEREST.

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Thoughts from the Profession.

REGULATING APPLIANCES.

Undoubtedly facial expression has much to do with deciding the shape of the arch and positions of the teeth.

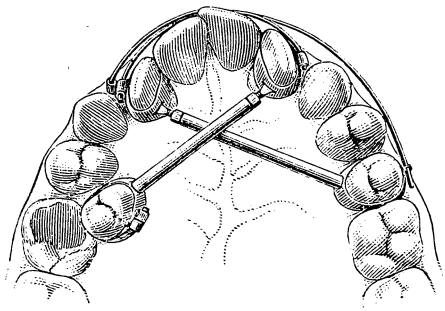

FIG. 1.

Fig. 1 represents a case of dental irregularity, in which the cause is directly traceable to the tense and contracted condition of the muscles about the mouth. Especially, the orbicularis oris and the depressor anguio oris, causing undue pressure to be exerted on the laterals and centrals of the superior arch, and resulting in forcing them inward as well as greatly turning them in their sockets. The right second bicuspid is also forced entirely out of its position in the arch.

Treatment.—The second bicuspids being in proper range were selected as anchor teeth, and encircled by neatly fitting, adjustable clamp bands. On the lingual surfaces of these bands, and at right angles to the line of the axis of the tooth, were soldered small spurs about one-eighth of an inch long. Over these spurs was slipped the bases of the sheaths of two Angle's jack-screws. The chisel ends of the screws resting in slots in bands, which had been previously carefully fitted and cemented about the lateral incisors. On the labial surfaces of these bands were also small tubes ("R" set No. 1 of Angle's regulating appliance) on a line with the direction

of the dental arch as far distally as the positions of the cuspids would permit.

Into the pipe on the right side was slipped one of the rotating levers. The other end was sprung and latched into a hook on the buccal surface of the left anchor band. A similiar lever was slipped into a pipe on the left lateral, the other end having been bent sharply at right angles, was carried around and hooked into a pipe which had been soldered transversely to the pipe on the labial surface of the right lateral. The nuts of the jack-screws were now tightened, and it will be seen that the pressure exerted by the screws in forcing the laterals outward and rotating them will be assisted by the spring of the levers.

The central incisors were moved outward and rotated at the same time by means of ligatures firmly securing them to the spring rotating levers. The nuts were tightened every twenty-four hours enough to produce a snug feeling, but always stopping short of causing pain. The levers were occasionally replaced by new ones to keep up the proper tension. At no time was the pressure wholly relinquished, and consequently the operation was painless, only a slight tenderness being felt when the teeth were used in masticating.

After the teeth had been moved in the desired positions, they were allowed to remain for a week, before the appliances were disturbed, that all tenderness might subside. The appliances were then removed, and the teeth retained by encircling all four of the incisors with neatly fitting bands of German silver, uniting them with solder, and recementing them on the teeth as suggested by Dr. Guilford, and as shown in Fig. 2. It will be seen that the malposed second bicuspid has not been disturbed. It was my intention to extract it, but my patient so strongly objected I have allowed it to remain.

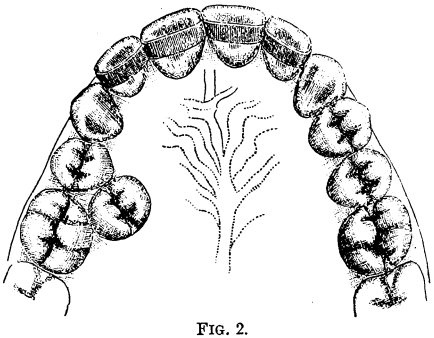

FIG. 2.

These retaining bands will be worn for a year. It is believed the correct positions of the teeth in the arch, assisted by the favorable occlusion of the lower teeth, together with the firmness they will have attained, will prevent the tendency to return to their abnormal position after the retaining bands have been removed.

Fig. 3 represents another very simple and practical little de-

vice, useful in removing single teeth which are out of position.

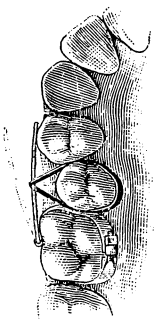

FIG. 3.

The case here illustrated represents the second bicuspid inlocked. A neatly fitting clamp band was slipped over the molar, and on the buccal surface of the band was soldered one of the small retaining pipes on a line with the axis of the tooth. A piece of gold retaining wire was bent sharply at right angles and hooked into the little pipe. Over the other end was slipped a delicate rubber ligature (cut from heavy rubber-dam as suggested by Dr. Black), which was carried over the crown of the tooth, all as shown in the engraving.

If the wire fits accurately to the bore of the little pipe, it will be held firmly without any support at the other end.

This appliance is especially useful with young patients, or when a single tooth just coming into position needs only a slight amount of pressure to direct it in the proper course. It may be used on the incisors, as well as in the case here shown, and on the lingual as well as the labial side of the arch. But where the teeth have become firm, necessitating greater force, screws are more desirable.

The case here given was that of a young lady, a teacher, who was just starting on her summer vacation. After adjusting the appliance, I gave her several rubber ligatures, with directions to apply them when needed. I did not see her again till the close of her vacation, when she appeared with the tooth in perfect position. She reported having used but one of the extra rubber ligatures, and had suffered no inconvenience.

Edward H. Angle, D.D.S. Minneapolis, Minn.

VULCANIZABLE GRANULAR GUM FACING, AN OLD IDEA REVIVED.

When Dr. Gilbert Walker's granular gum facing appeared on the market, I at once recognized in it an idea I had put to practical use over a quarter of a century ago. It is only recently, however, that I have had time and opportunity to examine and compare the specifications of his patent, with the description of a method of imitating, with vulcanizable rubber, the natural or the porcelain gum, which long years ago I had made known to the profession through the *Dental Cosmos*.

While attending lectures at the Pennsylvania College of Dental Surgery, in 1864–65, I was impressed, during one of Prof. Williams' lectures, in which he demonstrated a method of making fancy instrument handles by cutting into small pieces and commingling variously colored dental rubbers, that a much better imitation of the natural gum than that produced by the light colored pink rubber usually used could be made, by, in the same manner, cutting into fine particles and intermingling the light pink and red colored rubber. Within a few days thereafter I tried the experiment and produced the specimen, which is still in my possession, exhibited at a meeting of the Odontographic Society of Philadelphia, held April 7th, 1869 (see *Dental Cosmos*, Vol. XI, page 247, May, 1869), of which the reporter makes the following note: After describing a number of objects exhibited by me at the same time, he says: "Also a specimen prepared by him some five years ago, intended to represent the natural gum, in rubber. Equal parts of American red and English light pink rubber were cut very fine and intimately mixed, with the scissors. When vulcanized and polished, it has a mottled appearance, imitating the gum much better than a solid color."

At that time I carried on a dental laboratory and made a large number of dental plates for my patrons, with the gum portion formed in this way. No secret was made of the process, and others, I know, afterwards used it.

On this invention Dr. Gilbert Walker, of London, England, has been granted two American patents. The first, No. 395,600, filed May 8th, 1888, and dated January 1st, 1889, is for the product itself. In his specifications he states various ways in which the colored or tinted rubbers may be commingled, but disclaims any invention in the methods by which this is accomplished, restricting his claim to the dividing into minute particles and intermingling the various colored or tinted rubbers so as to form a granular appearance; indeed, stripped of legal verbage the words in which he makes the specific claim of his patent application, and the quotation from the Odontographic Society report are almost identical.

His second patent, No. 395,601, filed July 5th, 1888, and dated January 1st, 1889, is for a dental plate with the gum portion formed of this granular rubber.

When new, well polished, and especially when wet, the close imitation of this material to the natural gum is, out of the mouth, very striking; in the mouth, however, it is disappointing, especially so, after being worn for some time, or after the plate has been repaired. After several years' use of it we came to the conclusion that

a well selected light pink, solid color, was most satisfactory. While this method breaks up the solid color, the opacity of the rubber still remains. So long as this exists we cannot hope to obtain with it so close an imitation of the natural gum as is seen in a newly finished celluloid plate, especially if the celluloid is finely stippled, yet even this leaves much to be desired.

Twenty-five years ago such an idea was much less appreciated than it is now. I then made a number of efforts to have it placed on the market, but without success; had it been patented, the result would probably have been different. Since the introduction of celluloid has so increased the appreciation of plain teeth as a means to a more natural and artistic effect, a gum imitation so readily used has far more value, and its inherent defects may therefore be more readily overlooked. From the experience I have had with it, I doubt, however, if it will prove more than a passing shadow.

William H. Trueman, D.D.S., Phila., Pa.

DENTISTRY IN MEXICO.

I notice in February ITEMS OF INTEREST some one telling how much money he has made practicing dentistry in Mexico.

I have been in Mexico twenty-nine months. I crossed the Rio Grande with a few hundred dollars, and to-day that is all gone, and I haven't enough money made in Mexico to carry me home. I am in a town which claims eighty thousand inhabitants, with myself and two Mexican dentists, and I think I get most all the work, unless it is some extracting for the low class or "Pelados," and I often do that but never get more than fifteen or twenty-five cents a tooth. The wealthiest and best people won't pay more than one dollar for extracting, and not over three or four dollars for an anesthetic.

I am presumptuous enough to say that I can do as good gold work as most dentists, and I have never been able to get any more for it than I did in the United States, taking into consideration the difference in American and Mexican money. When I started to Mexico and got as far as San Antonio, Texas, I stopped over one night. At the hotel I met a man just from Mexico, who told me to go on by all means, and pointing with much pride to a large gold filling which adorned an upper central, saying, "Ahem, that costs me one hundred and five dollars in Mexico." (I have since found out that he lied.) Well, I did not know whether to wait till the departure of the next train or go on at once, I was so fearful some

other American dentist would "gobble" up all those one hundred and five dollar fillings before I got here.

There are a few American dentists in Mexico City who have done well, and are still doing well, but they went there many years ago. Most had money when they came, and have been able to remain and build up a practice. Those good times are gone in Mexico. The Mexican people know what we charge in our country for dental work, and have become more enlightened in everything. In fact, if you want to find a fool, go to any other country for an easier task.

My advice is, hold fast to what you have, so as to go back to it after you have visited Mexico. If you can't speak the language of this country, you will be in as bad a fix as a one-legged man at a footrace, and if you *can*, and come and stay awhile, I will have more witnesses to what I say. I don't spend any money foolishly. I dress clean and nice, as any dentist ought to do. I don't gamble, nor drink. I pay my office rent and hotel bills; and yet, in over two years that I have been here, I have not been able to save a dollar. I have visited many towns in Mexico inhabited by from ten to eighty thousand people; many of these towns without any kind of a dentist; and I have done good work, with which the people were well pleased. Yet I have never made more than two hundred and fifty dollars a month, my hotel bill never less than fifty dollars of it, not to say anything about railway and buro fare. After you reduce the balance to American money, you have the handsome sum of about one hundred dollars. Remember, this is when you are doing the best. After you visit a Mexican town ten to one you will have to remain two weeks before you can get even a tooth to pull, and then maybe not get more than twenty-five cents for it. Since reading "Dentistry in Windy City," in March ITEMS, I have often thought how very appropriate this narrative is to my own experience and to most dentists in Mexico. Everything is rude, and most places half civilized.

"If Bushy Smith's wife comes in for the impression for that set of teeth, and 'Squire Banks gets that tooth extracted, and that fellow that lives over in Alkali Flats gets the work done he was talking about, I will be in a fair way to live for another month, and maybe till spring."

More than one dentist in Mexico who read that piece exclaimed: "Well, the writer of that has surely heard of me."

Be sure you have not a gold mine under your feet before roaming too far to find one.

J. K. Foster, Guanajuato, Mexico.

SOME OF THE DENTISTS I HAVE SEEN.

My dentists say my teeth are made of chalk; that by physical degeneracy some of the strengthening properties of enamel so necessary to retain the beautiful contour fillings of the present day are defective. I have been under the hands of many dentists, but their fillings have had a way of coming out at unexpected times, mixing with my daily bread. So when I was confronted one day with a scratched and weather-beaten sign, I was in a condition to favor artificial masticators.

I went up the short flight of steps that had a way of increasing in breadth as my courage oozed out. I found three doors much alike, but one with more mud and dirt in front of it, so I singled that out as the entrance to the den of misery.

The absence of buttons on an upholstered black hair chair showed the marks of use, and I seated myself, and informed the man of forceps I wanted my teeth examined. He dusted the plaster from his hands by friction on his coat tail, and invited me into his operating chair.

He remarked about the light being bad, and windows somewhat dirty.

"I am afraid to have them washed, lest," said he, "I might take cold." He laughed—good joke.

A pine stand, once stained, with a towel hanging over the edge held the instruments of torture, and from the uncertain color of the towel-table-cover, and the various holes, in the form of instruments resting therein, being often laid in the same place, I decided my dentist was very methodical, "having a place for everything and everything in its place;" that he had been in practice many years, and the towel, too.

There was not a napkin in the office, but a cloth with which he wiped his hands had a little fringe, showing he believed in two of a kind, and had invested in two towels when he started in business; one acting as table-cover, the other as handwiper, for about ten years.

His fingers took the place of rubber-dam, and as they had a barn-yard smell, I presume he was a lover of horse flesh. My teeth were examined; the fillings of other dentists were soon punched out, and I was informed that the fillings put in eight months ago could be replaced. So all fears of losing my teeth vanished. My professional friend rolled up a piece of paper, pushed it under my lip, grasped my tooth with his fingers, drew a small stone to the edge of table, spit on it, sharpened his instrument, and after chiseling and filing the tooth all out of shape, pronounced it ready to fill. Eight cavi-

ties were filled with gold in a short time, and I was informed that they would stay.

He grasped the tooth so tightly the saliva could not get to the cavity without flowing over his fingers, and that was prevented by occasionally wiping them with a sponge, hanging to the arm of the chair for that purpose. They ought to stay, for they were put in by handpressure—it was pressure, sure enough, and I often wonder where I would have gone to if that instrument had slipt?

This is only one of the dentists I have seen.

I have also become acquainted with the honest dentist who puts five dollars' worth of gold (?) in a tooth, and only charges three dollars for the gold and labor; the fashionable dentist, too, and the lady's dentist, who, with perfumed hands, pries her lips gently apart and sympathizes with every pain. I have seen the fat dentist and the lean dentist; the dentist who talks and the one that is glum; the cross dentist and the mean dentist; the sedentary dentist and the never-to-be-seen dentist, who is always off fishing or taking his rum.

I have been in offices where everything was nickel-plated, but the dentist and his assistant; where everything seemed to run by electricity, and I have been where a young lady dentist sent an electric thrill through me, at her very touch; put my name in a little book and requested me to call again in three months. Everything about that office was fine; the fillings were finely finished, and the charges reached a fine figure.

Does the dentist of to-day depend too much on machinery and labor-saving instruments and devices, and not enough on himself? Do we too often depend on patent appliances or processes to accomplish impractical results? Do many of us depend on cements, varnishes, new forms of gold and good luck to hold fillings in flat, ill-shaped cavities?

No. From all over the country, graduates of our colleges claim they fill according to directions, but the fillings will not stay. Teeth cannot be filled by any set rule. Each case presents difficulties requiring experience and judgment.

If many of us devoted more time to the form of our cavities, if not less to finishing and polishing, failures would be diminished.

Norman.

By seeing the conduct of a youth, especially as he is budding into manhood, we may guess pretty accurately what he will be at maturity.

A TOOTH OF A MASTODON.

My interest in the mastodon was awakened a few days ago by the finding of a mastodon's molar in my county of Indiana, which I now possess. A description may interest the readers of the ITEMS: The tooth weighs five pounds, the dimensions of the crown being eight by four inches, and the outer longer cusps standing one and three-quarters inches above gum or enamel margin. The roots are in two divisions, one root standing separately and alone, and behind there is a cluster of four or five with the ends of all of them broken off. The longest remaining root is six inches in length, and as nearly as I can estimate it the piece lost must have been three inches in length, making a root nine inches long. The crown has five distinct cusps or nipples on each side, with several small ones clustering around them. It is greatly worn by mastication, and toward the mesial end of the crown it is cupped out to a depth of one and one-quarter inches, showing the enamel and dentine beautifully; the former being three-eighths of an inch thick at some points. The mastodon is an ancestor of our modern elephant, or at least is of the same family, and it is chiefly distinguished by the teeth. The word mastodon is derived from two Greek words, meaning "nipple" and "tooth," the crown before becoming worn being a cluster of enamel-covered nipples or projections.

The mastodon during its lifetime had six molars on each side, above and below, but never had more than three in place at one time. The front tooth would become worn down, and the teeth to the rear would move forward and push it out, another molar emptying posterior to all, thus making what is sometimes called a horizontal succession of teeth instead of a vertical succession, as seen in the human mouth.

Of the two extinct species of elephant, the mastodon and the mammoth, whose skeletons and remains are found from time to time, the mastodon is the older, its remains never having been found with those of man, while the mammoth's have, though it is very ancient.

It is interesting to estimate the age of this tooth, even though, when one just hears it, he is incredulous. Archbishop Usher's computation, which placed the creation of man at 4004 years B.C., was for a long time believed to be correct; but lately so much new evidence has been discovered, that it is now entirely discredited by our scientists, who place the creation or origin of man at a much more remote date.

In the last edition (ninth) of the *Encyclopædia Britannica*,

article on "Anthropology," by E. B. Tyler, LL.D., F.R.S., author of "Primitive Culture," is the following:

"Geology, notwithstanding the imperfection of its results, has made it manifest that our earth must have been the seat of vegetable and animal life for an immense period, while the first appearance of man, while comparatively recent, is positively so remote that an estimate between twenty and one hundred thousand years may fairly be taken as a minimum."

This tooth, then, is no doubt twenty thousand years old, and may be over a hundred thousand, which, if we can have confidence in the indications, is certainly enough to excite our curiosity.

H. C. Sexton, Shelbyville, Ind.

PAIN FROM WISDOM TEETH.

Dr. Stoddard: I had a case that interested me greatly, from the fact that I was the patient. About the time of eruption of my wisdom teeth, I had severe pain in the articulation of the inferior maxillary; sometimes the joint became so stiff that it would with difficulty close. The teeth were perfectly sound at the time, and I thought it was caused by neuralgia from eruption of the wisdom teeth. Since that time I have seen a number of cases where perfectly sound wisdom teeth have caused neuralgia at the period of eruption, though with not exactly those symptoms.

Dr. Page: A year ago two very similar cases were brought to me by a physician. In the first he said he feared lockjaw, and wished me to make an examination. The teeth were completely closed, and we did not dare to open them. In passing a probe along the side of the teeth, I came to the right lower wisdom tooth, and, by the assistance of the physician, I pressed the cheek out, and found what I thought was the edge of the gum over the wisdom tooth. I passed a platina probe and brought out a large amount of pus. I then passed in one end of a platina tube (used in a syringe), tying the other end around a molar.

In a few days I removed pus enough to open the teeth, and found the third molar erupting in such a way that in biting, the right superior third molar pressed the gum over it, causing irritation and swelling, and this, together with the food fermenting there, resulted in suppuration. I removed part of the gum, used full strength aromatic sulphuric acid, and gave a quantity to be taken home, with instructions how to use. The tissues healed, and the wisdom tooth has since come through. The treatment of wisdom teeth require much carefulness. —*International.*

SHALL I BE A DENTIST?

It has been my fortune to meet dentists in their offices in a large number of States and in several of the European countries, and to gather some statistics bearing on the subject.

I assume that most enter the profession to make money. It is, therefore, chiefly from this standpoint we write.

Dr. Evans, of Paris, probably leads the profession as a money-maker. He has put bits of gold in teeth and nuggets in his pocket. He has the lead in the most fashionable and the most profligate city in the world. But no man will again do what he has done. The conditions are changed.

Dr. Sylvester, of Berlin, a man of whom we hear little, has a very lucrative practice, indeed. He is a Maine Yankee, with power and success written all over his face. Old Dr. Abbott came to Berlin many years ago, and gathered from the open field the nobility and best families of the German empire. Dr. Sylvester, who was for years in his office, and Prof. Miller, his son-in-law, inherit their practice from this original garner. But neither Europe, nor any other country, longer offers opportunity for a man to come in and lead, simply because he is an American. Indeed, the name may be a positive misfortune. It is hard to convince an American that he is not a better dentist than a man of some other birth, and since I write for an American journal, it may be as well to admit that he is, but so long as he is not able to convince men of other nations of the fact, it will not stand to his profit while practicing among them. To such as anticipate that they will emulate the men I have named, I recommend them to inform themselves on the law now regulating the practice in almost every European country, and especially Germany, France, Switzerland and Italy.

Some time since, an article appeared setting forth the financial advantage of a practice in Bombay. In answer to an inquiry, the Minister states there was no ground for such an article, and that the supply was fully equal to the demand.

Occasionally, we see some statement favorable to Mexico, and I am satisfied that with some, and under some circumstances, a practice there might be quite profitable. But men whom I have met, who have been in practice there, do not place its advantages far above its disadvantages, when compared with the States. In short, places and nations are fast becoming leveled, and the time is close at hand when for an American to open a practice in a strange land is simply to suffer the inconveniences which an unknown foreigner must everywhere endure. Even China is educat-

ing her own dentists, and a friend of mine who practices medicine there tells me that the American dentist finds little patronage save from his own countrymen, who sojourn in the Celestial land.

It is my belief that the best place for a dentist, generally speaking, is in his own country, and hence, in this article, we may narrow the financial part of this question to what it is worth to be a dentist in the United States. There never was a time when men were collecting such large fees, and serving such a large patronage as now; and, on the other hand, there has never been a time when so many competent men, with well-equipped offices, were anxiously waiting for a sufficient income to pay their economical living. In my travels from city to city, it has been my custom to ascertain, as nearly as possible, the gross income of all the dentists in the place. From this I take one-fourth for business expenses, and divide the remaining three-fourths among all the persons who devote their time to the practice. In no case have I been able to include all the dentists in a State, but I have been able to canvass a sufficient number to give a reasonably accurate estimate of the total.

Taking one of the central Southern States as a type, I find the average yearly net income to be $806.00, or some over $2.60 per day. Taking, also, a central Northern State, and computing on seven towns containing in all sixty-one dentists, I find the net income $839.00, or some over $2.70 a day. Cities present marked differences as regards the amount paid the dentists. One Southern city of eighteen dentists pays $1.55 per day, while one Northern about $6.00. Though this estimate is above the estimated income of physicians, and quite a good deal above that of teachers, it is my belief that it is not too high. I regret that I can give no statistics on the same subject in the practice of law, but such an estimate would be hard to make, since the income of a lawyer is not so closely confined to fees.

My observation leads me to believe that the practice of dentistry pays more in fees than either of the other professions, and has the further advantage that it requires less time to build a patronage. For the sake of the young man anxious to enter the profession, I would gladly drop the subject where it is. But there is another phase of the subject that must needs be considered, if justice is done.

I trust you will pardon the baldness that arrays itself against the popular sentiment of America, and asserts that to make money now, and at any cost, is not the chief end of man, nor is it necessarily conducive to the ultimate success of life.

To debilitate one's self mentally or physically for money, is to pay a dear price for an uncertain good, and of all the occupations I have named, none so rapidly and surely undermines and debilitates as the practice of operative dentistry. On making this statement, I do not refer to the old school dentist who extracts teeth and makes plates, or to those country practitioners who travel in the country or sit for hours on the streets or about their office door, waiting for a patient. I refer to the man who is what the young man would be.

To enter on a consideration of why this is so, would be to make lengthy statements, not fully intelligible to men outside the practice. Suffice it if I state that I know of no occupation that makes such a drain on the nervous forces. Men who have stood for years at the chair are commonly weak, nervous and hypochondriacal. The old accepted average of fifteen years, as the time of service for a man following such a practice, is materially shortened since the introduction of the teeth-saving era.

Frank M. Harris, New Albany, Ind.

INSANE FROM PULP-STONES.

Dr. Page: I have a patient insane from toothache, the teeth apparently perfectly sound. Three times at intervals of about two years I have removed a pulp-stone. In each instance it has taken an hour or more to locate it. The attacks have been repeated four times altogether. In the first paroxysm he was so violent that it was necessary to strap him to the bed. The trouble then subsided without the cause being found. The second time the patient was brought to my office in a carriage. After an hour's search for the cause, I made an application of arsenic, removed the pulp, treated the tooth, filled it, and he has the tooth to-day. About two years afterward he was attacked in the same way and was again brought to my office, the trouble being on the opposite side, and was treated with like success. Two years afterward he was again brought to me, and again successfully treated. Every time the trouble was in the molars, and in each instance relief was obtained in twenty-four hours. The patient is a man six feet one inch in height; not fat, but heavily built; his teeth are of the kind subject to pulp-stones,—very hard, short, and yellow in color; the bucco-lingual diameter is greater than usual; the length of crown is shorter; the mesio-distal diameter is longer than usual, and they were considerably worn,—that is, the cusps were worn to the dentine. He grinds his teeth much during sleeep. —*Review.*

WOMEN AS DENTISTS.

New ideas are rapidly disintegrating the old order of things. Intelligence, tact and skill now take the helm of human destiny. Sex, wealth and social position are secondary factors. Where the brightest intellect is, there we may now look for the greatest achievements, even if it should happen to be in the cranium of a woman.

Motherhood does not circumscribe intellectual development, it enlarges it, and demands a queenly attainment for her task; for next to hereditary, a child's home training is the most important factor in the evolution of its character.

Education, social position, business responsibilities, or even professional duties do not unsex the woman; they rather give self-control and balance and breadth in the practical affairs of life. Brilliant theorists of the sterner sex are apt to overlook the simpler and more ordinary aspect of subjects, they lose themselves in the abstract, and in what they are pleased to call the higher walks of life, and forget, neglect and degrade the rôle of "provider" and "protector." They sometimes even shame their dignity by leaning for support on those for whom they have promised to provide.

Let the woman be educated, and so skilled in some specialty as to be able to provide for herself, and her family, too, if circumstances should call for it. This would not masculine her, nor unfit her for connubial love and support. After thus fortifying herself against exigencies, every good woman should require of the man she marries, to be at least her equal, mentally, morally and physically; yes, and in self-reliance, accumulation and development.

Higher culture fits woman to coöperate with her husband for their joint benefit, increases her respect for parenthood and the family as an institution. But one of the impelling forces, if not the chief, for woman's higher culture and skill, is the necessity for many who are single, to make provision for their own support. By welcoming them to our colleges and giving them a broader and better education, they will be more freely admitted to lucrative professions and positions, where many are already meeting success.

But it is of woman's adroitness and her success in the dental profession of which I am to write.

Among those practicing dentistry are, Dr. Henriette Hirschfield, who graduated in 1869, and was the first woman to receive the degree of Doctor of Dental Surgery. She was a Prussian, and afterwards became dentist quite acceptably to the Crown Princess of Prussia.

A few years later, 1874, Dr. Annie Romberger received her

diploma. She has successfully practiced in Philadelphia for many years, and gained quite a reputation. She recently married Walter Hammell, M.D., and sailed with him for Australia, where it is understood they will both practice their profession.*

Among the foreign ladies who have come to this country to study dentistry, and are now practicing the profession in their respective homes are Drs. Wilhelmina Carstener, Anna Carstener, Charlotte Renard, Maria M. Schnegans, Martha Wœbcke, Bertha Knopp, Clara Kuhnast, Adelheid Jacobi, Maria C. D. Dalmer, Maria K. Benkard, Anna Von Dœmning, and Martha Schrœder, of Germany; Nettie Olgilvie, of the West Indies, all of whom, as far as I can learn, are successful. The first woman dentist to open an office in New York City, was Dr. Olga Neyman, the daughter of Mme. Clara Neyman, the writer and lecturer. Miss Neyman located on Madison avenue, and was cordially received.. All the chivalry in the profession was called out by her single-handed endeavor. She has a fine physique, charming address, and a social culture. She was invited to the meetings of the First District Dental Society, and speedily elected to membership, being the only woman enjoying that distinction.

Dr. Mary Stilwell, of Philadelphia, is also meeting with marked success; the home-like appointments of her pretty office, and the trim white apron of the young dentist, seems to rob the chair of its terrors.

Among the more recent graduates are Dr. Julia Carmen, of New York, daughter of Dr. M. A. Carmen; Dr. Fannie Hoopes, who is practicing with her father, Dr. W. H. Hoopes, of Baltimore. Miss Hoopes is being well received, and her marked characteristics, thoroughness and firmness are prominent in her professional work.

Dr. Earnestine Mergler, of Chicago, is practicing with Dr. Eugene Talbot, one of the most successful dentists of the West. Dr. Talbot tells me his assistant is quite satisfactory; always skillful and painstaking. Dr. Lydia C. Clare, of New York, is taking care of her late husband's practice. Dr. Margaret Neilson, of Elizabeth, N. J., is one of the most particular, studious and earnest young women who have entered the profession. Dr. Martha B. Moore, of Philadelphia, is assistant (and a bright one, too), to her father. All of these women are graduates of the college with which I am associated, and we have in our present class fourteen promising lady students.

It is claimed by some, as an argument against women entering the profession, that they are not thorough in their operations, and

* Since the above was written, Mr. and Mrs. Hammell have returned to Philadelphia.

that some poor work has come from their hands; also, that there are too many cheap dentists throughout the country. Could not all this be said of the men of the profession? A woman dentist said, in my presence, that she did not take half the pains with her work that she once did, as she was in a more independent position now, and if the work needed renewing in a year's time, why it simply gives me another opportunity to send in a bill. Of course, we are not proud of such neighbors, whether men or women; they are a shame and a disgrace to any calling. Women who are striving for an honorable position should be measured by their own work, not by that of the shoddy worker, whether man or woman. If the young dentist always does her best, never doing work she would be ashamed to have her brother practitioner see, it will not be long before patients will be glad to remunerate her well. The "cheap dentist" should never discourage the skillful. True genius need never fear inferior competitors. Put potatoes in a cart over a rough road and the small ones will always work to the bottom.

The ideal dentist to-day, whether man or woman, must have not only manipulative ability, artistic taste, and a thorough professional knowledge, but must be the possessor of a clean body, a pure heart, and a sound and clear mind.

As a young man in the profession, I give the right hand of fellowship to all sensible, intelligent and earnest women who seek to enter our ranks, and who hold up the high standard of our profession. *Geo. W. Warren, Philadelphia.*

DECIDEDLY ILLIBERAL.

Four of the States of the Union have placed themselves outside all lines of professional sympathy, and have deliberately ignored all that has been done by way of advancing dentistry. They arrogate to themselves functions that only superior beings should assume. They refuse to acknowledge the diplomas of the most reputable colleges, and insist on examining even the most carefully educated men themselves, before admitting their right to practice. If the dental profession of Massachusetts, New Jersey, Minnesota and Colorado can establish the fact of their own preëminence—for we assume that the laws passed are those asked by the profession of the State—their action may be justified. Otherwise, it looks like a gratuitous and unnecessary indignity offered to a profession with which they are not in sympathy. *—Practitioner.*

ARTICULATION OF THE TEETH.

An abstract of a paper by Dr. Isaac B. Davenport, Paris.

The old man who had lost all but two of his teeth and thanked God that those met, had some conception of the value of articulation. Many people with the mouth half full of teeth could not thank God for more masticating surface than this old man had, because their teeth strike together so badly that only a few are capable of mastication. The fact that such are often pretty healthy people does not prove that a very limited masticating surface is not deleterious. I believe the perfect articulation of the teeth is that towards which our operations should be directed.

I have no patience for the dentists who go chopping about the mouth like a bushwacker.

In trying to discover that form of articulation most favorable to its greatest usefulness, permanence and regularity, it became evident that some other method was needed than observation in the mouth, where only the outside of the teeth could be seen in contact, or with whole models from which only an imperfect idea of the inside striking of the teeth could be had.

To overcome some of these difficulties we have devised an articulator with triple hinge, which opens laterally as well as vertically.

Mere antagonism seems to express the prevalent idea of articulation; but antagonism is just what is most objectionable in an articulation. Teeth antagonize when they strike only here and there and prevent the other surfaces from touching. When thus arranged they may punch the food, but they cannot chew it. On the other hand, a correct articulation of the teeth secures their very highest masticatory functions. In other words, a perfect articulation is the harmonious adjustment to each other of two most beautifully complicated, uneven, triturating surfaces in such a way as to permit all the movements of mastication, each prominence or depression having special reference to the normal movements of mastication, and to change their form or direction would be to render such movements impossible.

When thus perfectly arranged the masticating surfaces slide on and into each other, constituting a self-sharpening machine, made up of a complicated system of inclines, so balanced and bound together as to be practically permanent.

The forces being thus widely distributed, wear goes on slowly on all the surfaces alike, and the physiological process of pulp protection is seldom overtaken by exposure of sensitive fibrils, as is often when but little masticating surface can be employed.

I was formally under the impression that perfectly articulating teeth would finally wear flat, owing to the shortening of the bite, and the under jaw coming forward, the ends of the incisors and the cusps thus disappearing coincidently; but the perfect adaptation to its function may tend towards the preservation of an organ.

A good articulation is where the arches combine most of the desirable qualities, such as continuous grinding surfaces, good contact for the most part inside and out, extensive contact possible on many planes without interfering with individual prominence; slight overshutting of upper incisors permitting the cutting movement without throwing the back teeth too far out of relation; the lower incisors capable of moving backward on the posterior inclines of the upper incisors, just sufficiently to conduct the cusps of the back teeth into their normal depressions with the same sliding contact. The rotary motion is permitted without the normal extent of contact being disturbed, either by too long cuspids or by such malposition of the teeth as to entangle the cusps, for when a cusp by a false contact interferes, being out of relation with the rest of the surfaces, the movement is either arrested, or if continued, the effect of the rotation is destroyed because one cusp must raise over the other, and that separates the other surfaces.

To resume, we find in a good articulation the arches mutually supporting and tending neither to irregularity, contraction, spreading, separation, anterior projection, nor flattening; wear evenly distributed, and consequently slow.

I have heretofore endeavored to show how the closed teeth should form one continuous self-supporting arch, "each jaw being," as Dr. Dwinelle once aptly remarked during the discussion of this subject, "a perfect matrix for the other;" yet in conversation with many eminent dentists since that paper appeared, I have not found one who grasped the idea of the cross or binding articulation of the teeth, especially the bicuspids.

The normally-arranged human teeth should touch all around in both arches.

To be well articulated the teeth must be regularly placed and correctly inclined.

The most common irregularity of the teeth is the irregularity of the position of the masticating surfaces, yet little attention is given this in works on irregularities, the attention being mostly confined to the deviations of the external curves or alignment of the teeth; yet if the former were attended to, the latter would necessarily be corrected, and more permanently than is usual with ordinary methods.

When teeth are regular and well articulated, they remain so because the forces and resistances are evenly balanced.

On the other hand, as the articulation is made up of a series of perfectly-balanced inclines, it follows that when anything removes one surface, whether an extraction, decay, operation, or badly-constructed regulating or other apparatus, improper force falls on other inclines changing the position of the teeth.

A few years after the teeth had been extracted, I have hardly ever found what I could call a good articulation, and the same is true when the teeth have been cut away between, or when the cusps had been carelessly removed while finishing fillings in the grinding surfaces. Such teeth antagonize but do not articulate, and cusps strike cusps, point to point, instead of passing between each other like cogs; and the motions of mastication are interfered with, especially the rotary, which is the essentially grinding motion, and hence the rapid wear of the limited number of antagonizing points goes on.

Largely on account of bad articulation, irregular teeth tend to become more irregular. Growth may improve some, but so far as a bad articulation goes, it is always unfavorable to regularity.

Much harm is done by the use of regulating appliances which change the articulation without improving it, and it is almost a universal fact that, unless an improvement can be made in an articulation, there will be no permanent improvement of the irregularity. The articulation is the only permanent retainer to be depended on. For the teeth will move till they find the best contact that circumstances can offer, and that movement often never ceases, because the forces never find equilibrium.

Before disturbing the articulation of a fixed irregularity, it is best to consider whether such disturbance can be overcome, and the articulation again made as good; if not, the chances are that the result will be worse than the original condition, and for the ultimate result we must wait not only "till the teeth become firm," as we say, but till they cease to move.

There is much yet to learn in regard to the meaning of the elevations, depressions, overshutting, shelving, interlocking, binding, curves, and inclines of the articulation, in their relation to biting, cutting, tearing, crushing, and grinding movements of mastication.

In the treatment we may hope that at least articulations are not worse by our operations than when brought to us.

I will renew my indorsement, made before the International Dental Congress at Paris, of the use of Dr. Bonwill's articulator for the arrangement of artificial teeth.

PLASTIC GOLD FOR GOLD WORK.

Frank M. Harris is to be commended for his ingenuity in making money, and his process is not altogether an imposition. He can do just what he says he can, and you can do what he can by passing him your fifteen dollars. The process has substantial merit, which is saying much more than can be said of many other ventures. He simply sells you a process for making plastic or putty gold that can be spread on any metal. It may be used as a solder or to build up, or to add to gold, silver or platina in plate or bridge work. "Briefly stated, it is a process of adding gold to gold, in any desired form and quantity, without solder, and with only so much heat as is used to dry out an investment."

How cruel, therefore, for Dr. Wiksell, of Boston, to send the ITEMS the following:

EDITOR ITEMS OF INTEREST:—Can nothing be done to cure the enclosed humbug, and prevent honest money from being turned over to this D.D.S., who sells one ounce of distilled mercury for $15.00? Several here have been victimized, and you can save others by just publishing the fact that they can buy mercury of you at the old prices.

Years ago, this same fake was worked on the profession. Any one can take foil and mix it with mercury, and back up a tooth with it, then heat in investment till all the mercury is driven off, and you have a very good joint. But the fumes of mercury have to go somewhere, and they are among the most dangerous known in the laboratory of the chemist.

If any of this shipshod work is to be done, let it be in the geometrical center of a ten acre lot.

For the good of the profession,

Gustave P. Wiksell.

HOW ABSURD THAT SUPERSTITION ABOUT FRIDAY.—Mayflower landed on Friday, Bastile was burned on Friday, Moscow was burned on Friday, Washington was born on Friday, Shakespeare was born on Friday, America was discovered on Friday, Lincoln was assassinated on Friday, Queen Victoria was married on Friday, King Charles I. was beheaded on Friday, battle of Marengo was fought on Friday, battle of Waterloo was fought on Friday, Julius Cæsar was assassinated on Friday, battle of New Orleans was fought on Friday, Joan of Arc was burned at the stake on Friday, and the Declaration of Independence was signed on Friday.

LABORATORY HINTS.

Polishing Instrument Points.—Put into the polishing cylinder (described below) the excavator points, burs, or other instruments, and put in with them about two teaspoonfuls of the finest flour of emery; close the cylinder; screw it to the lathe, and run at a good speed till all rust and spots are removed; take off the cover and examine frequently; when clean, remove from the cylinder, pour out the emery, and wipe out. Put in one teaspoonful of crocus, two of clean sawdust, a little olive oil, and the points; put on the cover and run the lathe till polished to suit; remove from cylinder, and wipe off with chamois skin.

The excavator points should now be sharpened on an Arkansas stone. The engine burs can be nicely sharpened as good as new; either with a knife-edged Arkansas stone by hand, or with a round knife-edged stone in engine.

The Polishing Cylinder.—To make the cylinder for this work: Take a piece of seamless brass tubing, one and a half inches in diameter, inside measurement, and three inches long. Close one end by fitting in a bottom of heavy brass. Now make a heavy brass nut that will screw on to the lathe head; then solder this nut to the center of the bottom piece, and place the bottom in the cylinder, solder fast with soft solder. Next make a tin or copper cover, make it to fit on tightly, so that it will not come off during use.

Acid on the Clothes.—In working with acids in the laboratory, it sometimes accidently gets spattered on our clothing. To meet these emergencies, have handy a bottle of spirits of ammonia, and *immediately* saturate the places with it; this will stop all action of the acid.

Burnt Fingers.—In handling hot flasks, furnaces, etc., we generally get burnt fingers. Petroleum jelly, (Cheesebrough plain vaseline), applied immediately, will stop pain and cure the burn; bind a piece of linen on, and keep it saturated with the jelly till all soreness disappears. *Dr. Wm. H. Steele, Forest City, Iowa.*

SUPERNUMERARY THIRD MOLARS.—I extracted recently for a lady who had thirty-two teeth in fair condition. Two were diminutive supernumerary teeth, located on the buccal side above and between the second and third molars. The crowns resembled wisdom teeth, and but one root. I have never seen supernumeraries in that location before.—*E. W. Wagoner, D.D.S.*

THE RELATIVE VALUES OF NON-COHESIVE AND COHESIVE GOLD.

I will preface my few remarks by a quotation from a familiar and popular author on dental practice in his remarks on the use of gold as a filling material.

I refer to Dr. J. Foster Flagg, where he says, "It is a work which can be best done by not more than one worker in a thousand; a work which can be well done by not more than one worker in a hundred; a work which is not reasonably well done by more than one worker in ten, and yet a work which is attempted in gold-working dentistry by nine workmen out of ten."

Happy is the one man in the thousand that can best insert a gold plug. To him these remarks are not addressed, but it is for the benefit of the remaining nine hundred and ninety-nine that this article is written.

As far as is known, with gold as first used, and down to a comparatively recent date, no attempt was made to take advantage of its cohesive properties. In fact, an effort was made by the manufacturers to produce a gold that was uniformly soft.

I think I am correct when I say that to Dr. Robert Arthur is due the credit of bringing prominently before the profession some of the advantages of cohesive over non-cohesive gold. Dr. Arthur published a small volume on the subject in the year 1856, which had at that time a wide circulation, and did much to revolutionize dental practice, and since that time down to a very few years a fierce war has been waged between non-cohesive and cohesive workers. Reams of paper and rivers of ink have been used, and the result has been that the conservative worker has selected the good part from each side, the one class conceding that for restoring contour, cohesive was best, and the other that with frail walls and at the cervical margins non-cohesive gold could be forced into the interstices with less danger of fracture or mechanical disintegration of the margins of the cavity; and to-day many of the best workers use non-cohesive gold at the cervical walls and the body of the cavity, finishing the filling and restoring the contour with cohesive, making a combination that is at times very desirable.

I wish to state here that I do not refer to restoring broken corners or building down teeth, for here cohesive gold is the material that must be used, but do refer in a general way to all other classes and modifications, with a few exceptions.

At the risk of being called egotistical, I will explain the plan that has given me the most satisfaction, and resulted in the fewest

failures; and as no advice is valuable that is not based on experience, and as we profit most by our failures, let it be assumed at the beginning that I have had my share of failures, and belong to Dr. Flagg's nine hundred and ninety-nine.

For convenience, we will divide the cavities we find into:

1. Small ones the size of a pin's head and a little larger.
2. Those with corners or whole parts to be restored.
3. Proximal cavities in the anterior teeth.
4. Proximal cavities in the bicuspids and molars.
5. Cavities on the labial surfaces of incisors and cuspids, and the buccal surfaces of molars.

In the first and second classes, the almost uniform results have been in favor of cohesive gold through the entire operation, and it is not my province at this time to enter into detail as to its manipulations. Each operator is presumed to have a plan that is peculiarly adapted to himself.

In the third class referred to, namely, those on the proximal surfaces of incisors and cuspids, the plan I have adopted (after separation) is to so shape the cavity so as to have an undercut at both extremities of it; beveling both lingual and labial edges, not depending on the last two for the retention of the plug to be inserted. After the cavity is prepared, I take the proper size piece of No. 4 soft foil, and fold it into a ribbon that is one-third wider than the long diameter of the cavity; then take a small instrument, say a broken excavator, and roll into a cylinder (do not roll too closely). Experience will tell you how much gold you will require for the cylinder. It will vary from one-fifth to a whole sheet. (I prefer these cylinders to any found in the depots).

It is presumed the dam is applied. You will then insert the cylinder into the cavity, forcing it up at the cervical margin, and allow it to protrude both at the cervical and lingual margins, forcing it into the undercuts at each end of the cavity, making a sort of basket of gold in your cavity; then begin with cohesive gold at the cervical, and finish the cavity with it, and at the last condense the whole with foot-shaped pluggers and finish in the usual way.

In the fourth class, *viz.*, proximals between bicuspids and molars, if the grinding surface is not weakened or gone, I pursue the same plan as in the incisors; but, if a compound cavity, I depend for retention on the lateral walls as well as the cervical, inserting the cylinders with the end looking toward the adjoining tooth, letting it protrude, making my basket as usual, and finishing with cohesive gold, condensing thoroughly wherever the soft gold came to the surface, and finishing with disks and tape.

In the fifth and last class referred to, those on the labial surfaces of incisors and cuspids, and on the buccal surfaces of molars, it has been my practice to bevel the edges as far as practicable throughout the whole margin, making an undercut all the way around with wheel-shaped burs, and inserting a cylinder on end, one that would protrude from a third to half its length beyond the cavity, and then make a cavity in the cylinder, forcing the soft gold into the undercut and filling the cavity thus formed with cohesive foil, and at last condensing the whole with foot-shaped points (as it were to head down a rivet), finishing with stones, etc.

One danger to the beginner in this method, is that the cylinders will not be of a proper size. They will either be too large to be inserted, or so small they will not be retained in place.

The one great object to be attained in any filling, except the restoration of contour, is to perfectly adapt the gold to the margins of the cavity; and there is no one that will attempt to gainsay the fact that the softer the gold the more easily it can be adapted to the walls and edges, and after the filling is inserted, the protruding ends of the cylinder can be malleted or burnished down with far less danger to the edges of the cavity. No operation is stronger than its weakest part, and generally the danger line is at the cervical border. In fillings inserted wholly of cohesive gold the trouble is not in regard to their coming out, but of not making a perfect and tight joint at the cervical and lingual borders.

All fillings are in a measure like a rivet, and there can be no better comparison than that all iron-workers use a rivet of as soft iron as is possible, consistent with the strength required. A steel rivet, though much stronger, does not adapt itself nearly as easily and well as one of soft iron; and, as one writer on cohesive and non-cohesive gold expresses himself in regard to burnishing cohesive gold to adapt it to the borders of the cavity, "one might as well try to burnish down a piece of cast iron. —*I. C. Curtis, in Dental Cosmos.*

During the proceedings of a late meeting of the New York Odontological Society, a member reminded Dr. S. E. Davenport that it seemed more like a Presbyterian prayer-meeting than a dental meeting. "Yes," the doctor replied, "we cannot get up any fight, for there is no opposite side." If this gentleman had given the brethren an object lesson in pugilistic science, a good, old-fashioned fight might have been inaugurated. There is nothing like "pitching in," doctor, when you wish to participate in a thrillingly exciting circus.

"HIT HIM AGAIN."

The Chicago organ of Chancelor Tuley's "Christian Anarchists" tries to ridicule Mr. Lawler's proposition to reform the "official" orthografy of this cuntry a litl. —*Chicago Globe.*

The presumptuous critic is more absurd than the Congresman, whose proposition is perfectly legitimat. He proposes that Congres shal direct the public printer to omit silent leters at the end of certn words, and substitute *f* in place of *ph*, a direction Congres is perfectly competent to giv, and ther ar much beter reasons for giving it than any that can be set up against it. The folloing words sho the proposed reform:

ACTUAL.	PROPOSED.
Epilogue,	Epilog,
Hypocrite,	Hypocrit,
Coquette,	Coquet,
Programme,	Program,
Philosophy,	Filosofy.

The educated reader wil observ that Mr. Lawler's proposed order is litl more than a proposition to discontinue the abominabl practice of speling onest English words in foren fashn—not les bad taste than aping foren manners, or foren pronunciation.

Epilog, *hypocrit*, and *filosofy* come from Greek *epilogos*, *hupocrites*, and *filosofia*. The Greek words ar here givn with Latin leters nearest in sound to the Greek leters. It will be seen that in naturalization (or Anglicization) of Greek words, Greek speling has *not* been strictly follod. We have changed the Greek *os* in *epilogos*, to *ue*; Greek *hu*, in *hupocrites*, to *hy* [?], and suprest final *s*; and Greek *f*, in *filosofia*, to *ph*, changing also final *ia* to *y*.

Why hav we made these changes? The Greek alfabet contains no such leter as *ph*, but a leter calld *fi* by the Greeks, whose fonetic value is exactly *f*. What is ther "in either rime or reasn" to warant our substitution of two leters *ph* in place of Greek *f*, fonetically our *f*? The historic fact is, that we received the abominabl *ph*, in Greek words containing the sound *f*, from Latin; but why the Romans butsherd Greek orthografy in that style no man noeth; nor can any giv a cogent reasn why we shud go on forever practising Roman sin. Other nations, whose languages hav com holely or mostly from Latin, hav rejected that absurdity. In Italian, Spanish and Portugese [?], the orthografy is *filosofia*, exactly the Greek orthografy. Why shud not we spel it *filosofy*, both beter English and nearer the original Greek?

Coquette and *programme* ar French, not English; yet ar completely naturalized in English, except that, by many (posibly most) riters, their foren clothes are retaind. We ridicule the "heathn Chinee," who, tho he ma be American by birth, persists in wearing garments, and the pigtail of celestial ancestry to the latest generation. Is persistence in alien speling of words that ar English by naturalization, more rational or les ridiculus, than that inveterat alienizm of the Asiatic pagan?

No, it is not. Ther is, consequently, a stedily increasing number of educated peopl who reject alien speling in program, epigram, coquet, filosofy, etc., and spel them as they o't to be speld.

—*Chicago Tribune.*

EXPERIMENTS WITH PENTAL.

Extracts from communication of DR. LUDWIG HATTGASSY, Assistant at Dental Clinic of the Royal University of Buda-Pesth.

In my experiments, the following questions were the subjects of my special attention:

What is the narcotic influence of pental?

When does the narcotic state commence, and how long does it continue?

How does the nervous system bear this remedy?

What is its influence on the heart and the respiratory organs?

What are the after-effects of the remedy?

There is no doubt that pental is an energetic and quickly acting anæsthetic. From the inhalation till the narcose, when the operation can commence, it takes on the average $1\frac{1}{4}$ minutes. There were cases when the narcose was so profound after $\frac{1}{2}$–$\frac{3}{4}$ minutes, that the operation could be then begun.

The quantity of pental necessary to produce narcose cannot be precisely estimated, as it seems to depend on the individual disposition. The smallest dose which produced narcose, was three grains, the average quantity 6–8 grains, and the largest doses 12–15 grains; a larger one than the latter was seldom used.

To determine the narcose, three circumstances are to be observed. First, the condition of the pupil. In seventy per cent. of the cases the eyes are open, in the others the eyes remained open even after lifting the lids, so that we can continually observe the pupil; by this we learn that during the narcose the pupils are always more dilated, and the narcose occurs at the middle dilation. The pupils either do not react at all against light, or only minimally.

When, therefore, the light reaction does not take place, when pupils are dilated, the narcose is sufficiently deep for the operation.

A second symptom is the insensibility of the skin. When, for instance, we pinch the underarm, and no reaction takes place, we are near the time to commence the operation, but it is always better to continue the inhalations five or six times after this test, to make it certain.

My experiences about the blood-vessels were, that in twenty per cent. of the cases observed by me the pulse remained uniform quantitatively as well as qualitatively, wherefore I have also accepted the action on the heart in these cases as unimportant. In some of the other cases no great changes took place, yet the beating of the pulse was both rarer and weaker; in others, the pulse was slower soon after the inhalation, which often was followed by a quantitative increase. Very seldom I have seen a light cyanose, and never so prominent as it occurs with laughing gas. It was evident, however, from all observations, that this agent has, in some individual cases, a strong effect on the heart, so that this must be carefully watched.

Concerning the duration of the narcose, if it be a superficial one, the patients wake immediately after the operation; if the narcose be a deep one, they remain in a soporous condition for one to two minutes. Sometimes the awakening takes place after five minutes, and then the patient remains soporous for a long time.

Of the after-effects we are quite satisfied. Even where organic disease exists and pental was administered, the patients bore well the narcose.

During the operations, it is absolutely necessary that the chest be free from all clothing whatever; and it is also necessary that an assistant be present during the narcotic state, not only for the sake of making observations, but also because the excitement stage of the unconscious individual is often so violent, that one person can not subdue it.

In conclusion, it must be admitted that pental is a strong remedy, which acts with intensity on the heart as well as the nervous system, and it cannot be recommended in private practice in larger operations. The indications are, however, that in operations requiring the least time, and with skillful manipulation, pental is preferable to either laughing gas or bromether.

STOMATITIS EPIDEMICA.

The *Journal fuer Zahnheilkunde* reports some interesting observations by Dr. Zeigel, during an epidemic among the inhabitants

of Britz, near Berlin, Germany. The disease is in many particulars identical with the mouth and foot disease of cattle, and is called by Zeigel, mouth consumption (stomatitis epidemica). It is ascribed to polluted water, which the people drink, in common with the cattle.

The following illustration of the disease is generally correct:

The inoculation lasts from eight to ten days, after which period a chill it felt, then aching in the back, general weakness, attack of vertigo, and even epileptic spasms. To this is often associated an inclination to vomit, and severe pains in the regions of the liver and stomach, constipation being noted throughout. The fever is ordinarily light, seldom exceeding 39½°. Hoarseness is also noticeable at this stage. In the majority of cases there appear small pustules on the edges of the tongue, the lips, and especially in the mouth corners, which soon burst, and, after effusing a clear, transparent liquid, leave swellings varying in size from a pinhead to that of a five-cent piece. The tongue swells enormously, protruding from the mouth, and dropping its then necrotized end. The gums, too, are swollen so as to overhang the crowns of the teeth.

The doctor claims to have discovered the bacterial character of the disease, which had such fatal results in the epidemic years of 1889–90.

FILLING MATERIALS.

Too many patients have been educated to the idea that "silver" is good enough for back teeth, because it will not show and is cheaper, and not because, in such places, it is best. People are not therefore disposed to pay much for such work, and no more for a large or difficult filling, than for a small one. This is not as we would have it, and the duty of every dentist is in, as far as possible, eliminating such ideas from the minds of his patients, and teaching them that, when indicated, amalgam is far superior to gold, and will repay all the time and care bestowed in filling a cavity with it, and that the fee should be governed by the necessary labor and skill.

It is a waste of time for any man to advocate, that, if a tooth can be saved, gold will do it. We all know that in many teeth amalgam, or some other plastic, is preëminently the material, and deserves as much attention in filling and finishing as gold. From my point of view, a man's ability is to be judged not so much from the elegant polish of his gold fillings, as from the exhibition of care and skill in making a good filling. *Charles C. Patten, Boston.*

Our Translations from Russian, German, French, Spanish, etc.

IRREGULAR POSITIONS OF PERMANENT TEETH.

[TRANSLATION.]

The regulation of teeth forms an important branch of our dental art, but I confine myself to accidental irregularities, as distinguished from those which are congenital.

Accidental irregularities have their origin in the too early cutting of the molar teeth, or their remaining too long in the mouth. By the early cutting the space designed for the bicuspids is partly filled by the advance of the first permanent molar, and thus the following front teeth are pushed forward, while the molar teeth remaining too long, the permanent ones are prevented from entering the space allotted to them, and are thus compelled to break through some part of the dental arch, either inside or outside of it. As further reasons for the acquired irregularities, the breaking of the jaw and the habit of thumb-sucking are also to be considered.

Inborn irregularities depend on the abnormal relation between the teeth and the jaws. Either the jaws are over-developed for the teeth, or the teeth are too large for the jaws—usually the latter.

To treat irregularities occasioned by the long-continued stay of milk teeth, it is often sufficient to remove the disturbing teeth, or roots.

Of course, it is not enough to merely remove the cause, especially in the later stages. Capping those not to be regulated with a caoutchouc plate, so as to raise the natural bite, is a favorite plan. Then, in closing the mouth, the teeth to be regulated will not be touched by those in apposition. Then we can force the teeth into their normal position by mechanical means.

In thumb-chewing, the treatment must chiefly overcome the habit by painting the child's thumb with bitter-tasting liquid, etc.

In irregularities where, through narrow jaws—inborn, or through early cutting of the milk teeth—the position of the teeth is crowded, two methods of treatment are proposed to establish the harmonious relation between the teeth and the jaws—the expansion of the arch, or the decrease of the number of teeth. The first method is considered very rational when all the teeth are sound, but can also be used where one jaw is normally developed, while the other is closely drawn together. Care is to be exercised not to

disfigure the expression by pushing the teeth too much to the front. If this is endangered, better extract.

In extracting, those teeth are to be first removed which have already an irregular form, or which are already peculiar. As the first molar is generally the first to succumb to caries, it is to be first sacrificed. Then the second bicuspid, which is easier affected by caries than its mate.

Concerning the mechanical appliances, I call attention to a case from practice. The subject was a boy, ten years old, whose large incisors in the upper jaw stood too far toward the lingual, inside of the arch. The lateral incisors were too far forward and outside. Though the real bite was normal, the boy had the habit of pushing the lower jaw forward, by which the lower incisors came completely before the upper middle incisors, and thus prevented the latter from assuming their normal position in the arch.

The boy got a caoutchouc plate, which covered the molars as well as all the rest of the milk teeth, which were still in the jaw, and a wire vulcanizer, made of a composition of platinum, on their buccal side, which encircled the lateral incisors standing outward.

On the lingual side of the plate was attached, right and left, a shell for the attachment of the piano wire used; behind the two teeth, to be moved forward, small handles were placed to prevent the shifting of the piano wire. The composition wire touching the lateral incisors has a double purpose—to hold fast the plate, and, by means of the counter pressure produced by the crowding of the piano wires, to move the teeth inward. By a slight turn of the wire on the place of the mesial or distal side of the teeth, any of the latter can be accomplished; the twisting of the piano wire assists to turn, in a simple manner, the large incisors which are crowding forward. As it is seen, this apparatus combines all advantages, the chief charm, however, is the frequent regulations consequent on the continually acting wires, and the ease with which the patients can remove the apparatus, to clean it and replace it. The apparatus must be worn uninterrupted by day and night, to be removed twice a day and thoroughly cleaned.

The teeth also, as well as the gum, which is often swollen through the crowding of the teeth forward, must be carefully cleaned. For this, a weak solution of carbol may be used, with which the mouth is rinsed.

To prevent the teeth from coming into their old position, another apparatus is prepared, which holds the now loosened teeth till they become stationary. The apparatus was worn in this case for a month. —*Dr. T. Kaftan, in Zahntechische Reform.*

DENTISTRY AMONG THE ANCIENT HEBREWS.

The millstones, as King Solomon nicknamed the teeth, were regarded by the ancient Hebrews as the motive power of life; their value therefore is manifest in every respect of social and religious existence. Moses legislated his famous law known as "tooth for tooth," a law which was altered and explained in the Talmud to mean a fine: The man who broke the tooth of his fellow man had to pay him a certain amount of money for the damage of his tooth, according to the estimate of the jury. If the master broke the tooth of his slave, the latter was set at liberty on this account, according to the Mosaic law. "Rabon Gamliel, who was the teacher of the Apostle Paul," says the Talmud, "had a slave, Tabi by name, and as he was anxious to set him at liberty, he broke his slave's tooth, that the latter should be free, and the Rabbi was so happy the day of his slave's liberation, that he gave a banquet to his friends, besides sending his slave off with a present."

The Talmud has some laws concerning "tooth breaking." Toothache plays a great *rôle* in the folk lore and proverbs of the ancient Hebrews.

King Solomon, in his proverbs, says: "As vinegar to a tooth, so is a lazy messenger to his sender." Another of his proverbs is: "The confidence in a traitor is like a sore tooth."

The Talmudical folk lore says: "If a man dreams that his teeth have fallen out, it is a bad omen; that his children will die." More known, perhaps, is the Talmudical proverb: "All aches, but not toothaches." Indeed, the dental profession was in its utmost cultivation under the care of the learned sages of the Talmud, and the reader will be astonished to learn that the art of replacing false teeth for natural ones was in use two thousand years ago, in the same cultured mode of the profession as in our modern time.

Samuel the Chakhim (Chakim means wise, and the term is applied in Hebrew and Arabic to physicians and dentists), who lived after the destruction, was the house physician and dentist of the famous Rabbi Yehuda, the saint. The latter was often afflicted with toothache, but was cured by the above-mentioned dentist. Whether the Rabbinical dentists have used chloroform I can hardly say, but I imagine, from a Talmudical narrative, that they have used it. The narrative in question was as follows: "Once Rabbi Yehuda the saint, had pain in his eyes, and his house physician and dentist, Samuel the Chakhim, wanted to perform on his eyes an operation, but as he refused to submit, the latter placed a certain liquid under the former's cushion, and the liquid was so strong that it went

through the cushion." Now, what sort of a liquid could that have been, if not chloroform?

The Talmud had a curious notion: That ordinary vinegar is good for the sore flesh of the tooth—not wine vinegar.

How dentistry was cultivated to perfection by the sages of the Talmud can be seen from the following: It is well known that the Hebrews were forbidden by the law to carry things on the Sabbath, but the Talmud allows the Jewish women to go out on the Sabbath with their false golden or silver teeth. Some Rabbis are allowing the silver teeth, for they look like the natural ones, but do not allow them to go out on the Sabbath with false golden teeth.

Human bones were not used, to polish them into false teeth, on sanitary principles, as the human bones are declared by the law as unclean, which means unhealthy. Curious is it to note that the Hebrew term for tooth is "shen," while the term for an elephant is "shenhab," probably so termed as they used ivory for the purposes of dentistry in making from the elephant's white tusks false human teeth, and the old Latin Proverb, "*Nomen et omen*," can be applied to things also.

Naphthali Herz Imber, Philadelphia, April, 1892.

Dr. L. Berchansky reports, in the Russian *Dental Messenger*, the following:

A girl of fifteen came to me and had a tooth extracted, which gave her terrible pains and sleepless nights. The gum around the tooth was much swollen, the neck of the tooth exposed, and a cavity on the lingual surface. The crown had an occluded position backward; the least touch occasioned strong pain, the teeth sitting but very feebly in the alveola. The extraction was easy. In the distal root there was a needle, the end of which came out from the root canal. The patient at first wondered how it could have come there, but afterwards recalled that a year ago, in picking the tooth with a needle, it seemed as if the needle had broken. Both roots are quite large and wide, and had a straight position, almost vertical. This explains the easy penetration of the needle into the root cavity, and further in the alveola. It were impossible in the case of divided roots.

In a Russian town there were practicing two dental surgeons, one from St. Petersburg, and consequently having on his diploma engraved "dentist," the other, from Dorpat, having on his diploma the word *Zahnarzt* (dental surgeon). To get rid of his St. Petersburg competitor, the Dorpat colleague went to the local medical inspector and petitioned him to prohibit the Petersburg man from

calling himself a dental surgeon, and to order him to call himself a dentist, according to his diploma, because only he (from Dorpat) as *Zahnartz*, has a right to call himself a dental surgeon. It is said that the medical inspector was so naïve as to agree with the Dorpat *Zahnartz*, and demanded the Petersburg doctor to take off the sign " dental surgeon," and put on " dentist." *

—*Dental Messenger.*

Antiseptic gargle (Dujardin-Beaumetz), formula No. 1 :

Water	1 liter.
Boric acid	25 grams.
Phenic acid	1 gram.
Thymol	25 centigr.

Formula No 2 :

Salicylic acid	1 gram.
Glycerin at 28°	100 grams.
Dist. mint water	100 grams.

Dissolve the warm salicylic acid in glycerin and add the mint water.

I prefer mint water to all other infusions. These hydrates have the advantage of being very little charged with organic matters, and therefore of not bringing into the mixture any changeable elements. The essences they contain (hydrate of mint especially) are endowed, besides, with antiseptic properties.

—*Répertoire de Pharmacie.*

A young girl of twelve had the misfortune to fall, six years ago, and wound her tongue, and also break one of her upper incisors. The wound on the tongue was sewed up and healed without giving any further trouble. A few days ago, however, the girl complained to a surgeon of pain in the tongue, who noticed a hard substance in it. By a small incision the foreign body was brought to light, and turned out to be the broken tooth.

STOPPED THE TRAIN FOR HIS TEETH.—The passengers on a local express between Dessau and Wittenberg, Germany, were startled by the sudden stopping of their train. A gentleman of Dessau explained to the mystified conductors that he pulled the danger signal because, in looking out of the window, he lost his teeth, and wanted to regain them. They gave him to understand that the loss was not a sufficient reason for giving the danger signal, but allowed him to recover them, and the voyage was continued.

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*There is yet a disputed point, according to the new law of May 8th, 1891, as to whether there should be differences in admitting to practice of *dentists* and *dental surgeons*, and this may, in a measure, explain the queer action of the Russian inspector.

Items.

It will not answer for a dentist to become so absorbed in his specialty as to forget that the teeth are part of a living, sensitive body, that they sustain intimate, nervous and vital relations to the eye, the ear, the stomach, the brain, and to the whole nervous system. *L. C. Ingersoll.*

Has any reader of the ITEMS had the difficulty of the counter die metal, of the formula given by Haskell, melting the surface of the die? Whatever proportion I mix the lead and tin, and at the lowest temperature possible, this difficulty occurs. The die metal was made by the S. S. W. Co. *C. D. Miles, Troy, O.*

"'Pears to me," said old Uncle Pete, as he leaned his hoe against the corn-crib and extracted a pebble from his shoe; "'pears to me like dar was some kin' o' misdecomposishum in all dis talk about babies cuttin teef. De way I'se cum to look at it, hits de teef cuttin' de baby. Leas' wise, dat's de way hit looks in de case ob collud chillen." —*Archives of Pædiatrics.*

A useful adjunct to the laboratory lathe is the attachment to a chuck on your lathe of a four or five-inch emery wheel with an iron center, such as is used by metal workers in grinding and polishing Besides being useful in grinding and sharpening tools, it serves as a fly wheel when using opposite sides of the lathe in grinding teeth and polishing plates. *C. D. Miles, Troy, O.*

QUESTION.—What shall I do? Young lady, of eighteen years, with temporary teeth, abnormal in size, no decay, and very irregular. Never had any signs of eruption of permanent teeth in their place. They give her mouth the appearance of one having all the teeth extracted. Her speech is quite defective. Health good and been advised by physicians and dentists not to have them out.
E. W. Wagoner, Emporia, Kas.

The moral character of men entering colleges is important. I think we should be very careful of that. Men don't like to send their wives and children, or have them come in contact with a libertine; they don't like to send their wives and daughters where the fumes of whisky are uppermost all the time. I think colleges

should have a board of examiners for applicants, both as to moral character and mechanical turn of mind. *Dr. Hewitt.*

DEATH FROM ABSCESS.—I remember a case that came into my hands a number of years ago. The patient was taken with acute pericemental inflammation. Having been called out of town for some weeks, his physician attended him. The inflammation became very severe and extensive. What its character was I never learned, but death occurred before I returned. These cases are very unpleasant, as the dentist usually receives all the blame.

—*Dr. Truman, in International.*

ADVERTISES ANOTHER MAN'S FALSE TEETH FOR SALE.—E. L. Joselyn, dentist, pawnbroker, horse doctor, and general dealer in anything to be bartered, is a queer character who has made the people of the four associated villages laugh for many years. His latest freak is to advertise in the *Ansonia Sentinel* that he will sell at public auction, at the town sign-post at Birmingham, a false set of teeth, "now in the mouth of Henry A. Bradley, of Derby." Joselyn made the teeth seven years ago, he claims, and says they have never been paid for. Bradley is the laughing stock of the four towns, and has consulted a lawyer to see if there is any redress.

A rubber-dam clamp with a short rubber band, is an effective devise for fastening napkins or towels around patients' neck, holding them firmly in position. It is much more easily adjusted than a pin. A device for cleaning pliers of refuse cotton balls, which I have found convenient, is a small square of carding wire mounted on a ball of wood. I keep it on my bracket table, and when I wish to remove cotton, simply touch the wire, and pliers are at once freed, thus doing away with throwing the balls of cotton on the floor, or reaching across patient to deposit them in the cuspidor. It is but an instant's work to clean the wire after each operation is finished.

Dr. Alice Jarvis, Traverse City, Mich.

GRINDING THE TEETH IN SLEEP.—A person bites something hard on the right side; the wedge-shaped cusps of the bicuspids on the left side strike each other; in the shock they are split apart; the noise at the time misleads, and one does not notice when it is done. It may also happen when one grinds his teeth while sleeping, one of the teeth occluding improperly. A man, a wood-carver, who grated his teeth while sleeping to such a degree as to be *painfully* near neuralgia, I tried to evolve some scheme to mitigate the evil, finally devising a vulcanite covering to fit over both the upper and lower

sets, armed with smooth surfaces. He could put these on and grind away all night with no adverse results. *Dr. Page.*

The pulp of a tooth may be devitalized and removed painlessly in thirty minutes, in the following way: Place the rubber-dam on the tooth; then expose pulp, or as near as possible. Take a small piece of cotton saturated in pure carbolic acid; place this well up in the cavity, and leave it for eight or ten minutes; remove, and with a sharp, round bur, cut into the pulp; again use carbolic acid for some length of time and then bur pulp all out. Use the acid again, and with a Donaldson pulp canal cleaner the pulp can be removed painlessly. I have removed a number when two or three arsenic treatments failed. I would not advise to fill the root immediately; better use glycerin dressing for a week.

Dr. Jones, Springfield, Mo.

PERSISTENT ADVERSITY.—The Chicago College of Dental Surgery has been sadly afflicted by sickness and death during the past winter. In December, Dr. D. W. Runkle, one of the demonstrators and a very promising young man, died. Dr. Joseph A. Swasey, only child of Prof. J. A. Swasey, and formerly a demonstrator in the operative department, also sickened and died. This was a sad blow, not only to his parents and near friends, but to a large professional circle. In January, Prof. Harlan was forced to go South on account of health, and Prof. Johnson was in a precarious condition. In February, Prof. Belfield sickened, and for some days his life was despaired of. We are glad to say that he is near recovery. At least two other members of the faculty were temporarily disabled, and altogether the college has been decidedly unfortunate in this respect. —*Practitioner.*

Dr. Geo. A. Mills says: I have been an active dentist for thirty-eight years, and I have mingled much with dentists, and I think that if this question were put to all intelligent dentists, the great majority would vote for no code of ethics at all. I have always been on record as opposed to a code of ethics. I think there has been much injustice and a great want of dignity in carrying out the code. Dr. Atkinson used to say that the men who advocated the code were those who needed it most. I have never known an instance where men have been brought up before societies on charges that were not of spite. We have a mission higher than tearing each other down. My heart aches to see men plotting and planning to destroy each other in our profession. We all have our faults and our weaknesses, but, gentlemen, we all need charity for

each other. Ethics mean simply doing right, and nothing else; but are the men who claim to be gentlemen, and the men who claim to be ethical, and the men who claim to be Christians, dealing with the question according to their consciences?

DECIDEDLY ILLIBERAL.—Four of the States of the Union have placed themselves outside all lines of professional sympathy, and have deliberately ignored all that has been done by way of advancing dentistry. They arrogate to themselves functions that only superior beings should assume. They refuse to acknowledge the diplomas of the most reputable colleges, and insist upon examining even the most carefully educated men themselves, before admitting their right to practice. If the dental profession of Massachusetts, New Jersey, Minnesota and Colorado can establish the fact of their own pre-eminence—for we assume that the laws passed are those asked by the profession of the State—their action may be justified. Otherwise it looks like a gratuitous and unnecessary indignity offered to a profession with which they are not in sympathy.

—*Practitioner.*

HINTS FOR THE NURSERY.—Dodging the tooth brush act is the small girl's delight. A few days since a little friend of mine was about to start off on a journey.

"Have you your brush?" asked her mother.

"Now, mamma," was the quick reply, "why need I take it? Am I not going off for a holiday?"

This incident certainly goes a long way toward proving the fallacy of trusting to the juvenile to care for her teeth. They must receive the personal supervision of the mother if trouble is to be avoided.

The cigarette is not the harmless thing which its makers and patronizers would have us believe. Its injurious effects are becoming more and more manifest. Petitions are pouring in on Congress to do something to counteract the growing evil. In the memorials presented it is stated that "clippings taken from newspapers show that during the last year there have been about one hundred deaths of young men, mostly under sixteen years of age, from the effects of smoking paper-wrapped cigarettes. In some cases there has been an analysis of the stomach, and in most of these cases there have been found acid, phosphorus and arsenic, which is largely used in the manufacture of the cigarette paper." This startling fact should beget public alarm and investigation. And yet because the custom is "popular," the habit is indulged in to the death.

—*Presbyterian Observer.*

Monthly Gossip.

DR. WM. E. BLAKENEY.

IT IS NOT generally good practice to fill six-year molars with gold.

DR. CLAPP advocates the use of tin and gold at the cervical margins in preference to amalgam.

WHITE DECAY, in the opinion of Dr. Banfield, is found in mouths only having an acid reaction.

Dr. C. W. HEISE claims to have used pental for the painless extraction of teeth with positive success.

Dr. MARSHALL believes there are pathological conditions of the teeth, to which the various forms of treatment by electricity may be beneficially applied.

"DELICACY OF TOUCH," says a popular dentist, "is a gift which can be developed but not acquired. Few possess it, and those who do, should not imperil it by excess of any kind."

"MAN," says H. R. Chamberlain's *American Morals*, "is the inferior of woman, in both physical and moral courage. Give me a regiment of women and I will whip a regiment of men."

THE EDITOR of two journals asks: "What mill were you ground in?" I can't say; too much pulverized to remember. The grist? Scattered, not enough left for kneading for a time of need.

FOR SWEETENING THE BREATH chew a slice of lemon with the rind on. A few drops of hypo-chloride of soda (liqueur de Labarraque) in half a tumbler of water, is also said to be an effective deodorizer.

IT IS THE OPINION of Dr. Corydon Palmer that there is more harm done to the development of the teeth by interfering with the deciduous teeth than in any other way, and that they should not be extracted.

AN ABLE PAPER, by Henry A. Kelley, D.M.D., entitled "Nitrate of Amyl," appears in the June number of the *International*. This drug, being one of the best antagonists to cocaine, the paper is of especial interest to dentists.

DR. CLAPP is a firm believer in the excellent quality of Steurer's gold. He says: "When you put an instrument on to it, it is like pushing your finger into a snow-ball," and that "it only condenses that which is directly before it."

THE DISCUSSION of the subject of combination fillings occupied considerable time during the meeting of the American Academy of Dental Science in January last. The subject was ably handled, and much useful information is conveyed in the published proceedings of this meeting.

WARM FEET AND A COOL HEAD insure good digestion. A Switzerland dentist recommends "a warm foot-bath after the day's work is over, as it promotes the circulation and relaxes the nerves." The best time to indulge in this luxury is just before going to bed.

"I ADMIRE THE KICKER," says an exchange, "I admire him even when he theoretically kicks me." I have seen great suffering inflicted by a theoretical kick, but, generally, this variety of gymnastics don't amount to much. It depends very much on the size and object of the kicker.

"WITH ADVANCING AGE," says a popular authority, "the human organism is reduced in size and weight. The whole body shrinks, as well as the tissues. Age itself is a disease. The old Roman proverb says that the aged return to childhood, mentally and physically." There is nothing comforting in this doctrine to us old fellows.

IN SENSITIVE DENTINE, when patients are extremely timid, Dr. Bogue dips a pledget of cotton into carbolic acid, and then into powdered cocaine, and places it into the cavity. This, he says, will obtund the sensibility enough to use granulated chloride of zinc with little or no pain. In ninety seconds the insensibility of the cavity is complete.

DR. TAFT believes in compound fillings. His practice is to fill the cavity to within about an eighth of an inch of the top with amalgam, using broad points at first, then finer ones, followed with Watt's crystal gold, and finishing with foil or pellets. By this method the doctor avoids unnecessary undercuts and saves time.

DIRECTED TO THE WRONG TOOTH.—Dr. Cooke says: I remember an example in a right upper second molar which was very lame on percussion. The patient said it had ached all the previous day and night. There was no decay, and it did not look as if the pulp were dead. I could see no reason why it should have caused all that trouble. The wisdom-tooth behind was through the gum,—it did not articulate with the lower teeth, but was in close contact with the second molar. The wisdom tooth was extracted; the patient had no more trouble, and the evidence was quite conclusive that the slanting of the third molar, acting as a lever on the second molar, was the cause of the trouble.

Our Question Box.

WITH REPLIES FROM OUR BEST AUTHORITIES ON DENTISTRY.

[Address all questions for this department to DR. E. N. FRANCIS, Uvalde, Texas.]

Question 26. *A lady has a left lateral and central incisor, separating without apparent cause. There is no tumor growing between them. The articulation is not at fault. She has been watched, at my suggestion, and does not breathe through her mouth. The teeth are now so far separated that a tooth, the width of a central incisor, can be easily inserted between them. What can be done?*

Regulate by drawing teeth back to normal position, and hold them there by connected bands till they are firm. I cannot say what they will do after treatment. *W. L. Lawrence, Carthage, Tex.*

Draw the teeth to place, and attach appliance for retaining them in position. But when this is removed the teeth will separate again.

Pathogeny obscure. *Richard Kessel, Buffalo, N. Y.*

I can assign no cause for the separation, if not caused by excessive pressure of the lower incisors. Fill the space by implantation; a tooth on plate or a dummy attached to adjoining incisors.

C. C. Patten, D.D.S., Boston.

This may result from osteoblastic activity within the alveolus. If so, I would recommend pressure to produce absorption of the new osseous formation, and thus bring the teeth back to their normal position, where they should be held by a well-fitting plate for at least six months. I have seen teeth which not only separated, but considerably rotated, treated in this way,

W. J. Jameson, Thomaston, Me.

I have frequently seen teeth moved from their normal position by the deposit of salivary calculus, without its showing much, but, on examination, it could be found even to the apex of the root. This may be the cause of trouble here. If so, the tooth should be thoroughly cleansed, brought back to proper position, and held there by ligatures, or otherwise till firm.

R. E. Watkins, Eutaw, Ala.

Have never had a similar case, and am thus doubtful of treatment, but I think I would attach the tooth to a gold band that would not quite fill space, and attach to right and left cuspid, very tight, but not enough to be uncomfortable. *E. Ellsworth Van Vleck, Charleston, W. Va.*

Question 27. *If in opening up pulp canal we find it clean and free from odor, what has become of the pulp, and what treatment do you advise? Have had such teeth abscess after disinfecting and filling with the greatest care.*

Pulp has been absorbed by the soft tissues. Disinfect, dry out, and fill the canal with cement or chlora percha. *W. L. Lawrence.*

The pulp has been absorbed. Give it the same treatment as a tooth with putrescent pulp. It will not abscess, if carefully treated.

Richard Kessel.

I would put the tooth on probation; avoid the use of anything irritating in the canal, and before permanently closing, inject hot air freely. No trouble will follow. I have had no trouble with such teeth, but the total disappearance of pulp is inexplicable to me. *C. C. Patten, D.D.S.*

The pulp in all probability became atrophied and gradually escaped in small portions from the pulp chamber and canal till all was gone. The treatment would be the same as in ordinary devitalized teeth—antiseptics, hot air, etc. Use hot root canal drier and test with the temporary filling several days, before filling permanently. *S. B. Hartman, Ft. Wayne, Ind.*

The tooth should be opened so it can be thoroughly cleansed and treated with peroxide of hydrogen for a few days; then use campho-phenique, sealing the tooth after such application. When satisfied no inflammation or irritation of peridental membrane exists, fill the root thoroughly with oxychloride and the crown with gold. I think you will have no further trouble.

R. E. Watkins.

A similar case, where the nerve was all gone, I treated as follows: I applied the rubber-dam; injected alcohol; dried with hot air; injected Marchand's peroxide of hydrogen, and after drying again with hot air, filled the pulp canal with powdered acidum boricum, covered with temporary filling of onyn cement, which I allowed to remain two weeks before permanently filling with gold. It has given satisfaction. *E. Ellsworth Van Vleck.*

The only cases coming under my observation were where the pulp had undergone partial or complete ossification. I open into the pulp chamber sufficiently to remove the small osseous formation, when the tooth can be treated in the usual manner and filled. If there is any tenderness of the tooth on percussion, I resort to counter irritants over roots of the affected tooth, or use electricity, which is often better. See paper of Dr. John C. Marshall, read before the Am. Ass. and reported in the May ITEMS.

W. J. Jameson.

Question 28. *What is the best treatment for dead, discolored teeth?*

Have used peroxide of hydrogen. *W. L. Lawrence.*

The same treatment as for previous question is about as good as any.

R. E. Watkins.

Use peroxide of hydrogen, followed with calcium chloride, and line crown with oxychloride. Never promise perfect results.

Richard Kessel.

Fill nerve canal with powdered borax moistened with chlorinate of soda (the union makes chlorine gas which has strong bleaching properties), then treat as in previous question. *E. Ellsworth Van Vleck.*

I have seen many remedies used and recommended, but none that proved satisfactory. They do not restore the tooth to its former color, or in any way near the color of the adjacent teeth. If the discoloration is objectionable, a Logan crown could be used, or a gold crown with porcelain face on the root the shade of surrounding teeth. *S. B. Hartman.*

Treat and fill the pulp canal. Remove all discolored dentine possible, without impairing the strength of the crown. Wash well with lime water,

and introduce fresh chloride of lime by using a quill with wood plunger. Touch lime with dilute sulphuric or acetic acid to liberate chlorine, which will make exposed coloring matter soluble in lime water. Wash again, and repeat the process till the tooth assumes a natural color. Line with oxychloride, and fill at once with gold. Much care and patience are required to make a satisfactory operation. *C. C. Patten.*

Question 29. *I have been in the habit of calling a full denture, either upper or lower, a set of teeth, and the two together a double set. But I have been disputed of late by a fellow practitioner who claims a person can have but one set of teeth in his mouth Which is right?*

Full upper or lower is a set of teeth, and the two, a full set.
W. P. Lawrence.

My idea is that you can say an upper set or plate, or lower for both, say a full set. *R. E. Watkins.*

I believe a full set of teeth consists of full upper and under. You can not use but one set at a time. *E. Ellsworth Van Vleck.*

In my opinion, a set of teeth is both upper and lower. If no natural teeth are present this forms an entire denture or full set of artificial teeth.
S. B. Hartman.

The natural teeth, both temporary and permanent, are spoken of as full denture, when the upper and lower are meant; I should say the same in speaking of artificial teeth. *C. C. Patten.*

Speaking of natural teeth, I call the upper and lower a set of teeth. As, for instance, you have a fine set of teeth. In artificial teeth, speaking in a commercial way, I call upper and lower teeth two sets.
Richard Kessel.

[This question is somewhat mixed, and is often the cause of misunderstanding between patient and dentist, regarding prices, etc. If we forward an order to a dental depot, saying, Please send one set of teeth—size, No. 27; color, No. 9, etc., we will receive a set of teeth containing fourteen in number.* To obtain a "full set" we are obliged to order one upper and one lower set; color, No. 27, etc. A patient inquiring the price of a set of teeth is liable to be surprised at the contrast in prices when one practitioner, in giving price, includes upper and lower in his set, and another claims only upper or lower. It is time we had a more definite understanding regarding this question. E. N. F.]

The following question is from Dublin, Ireland. If any of our readers, having a little experience, can answer it, we will be pleased to hear from them.

Question 30. *Many times, after the use of Dr. Bonwill's engine mallet, periostitis has set in, for which my patients have had to undergo long treatment. Is there any possible way of preventing the occurrence? Is the inflammation caused by faulty manipulation? I never use the mallet till filling is nearly completed.* *F. J. O.*

* Will they be upper or lower?—ED. ITEMS.

Your trouble must be caused by faulty manipulation or too heavy blow from mallet. The Bonwill pluggers are properly set when they leave the manufacturer and should not be changed except to overcome wear. Lighten the blow, and see what effect that will have. There are various remedies for periostitis, but we have had success in all cases with external application of aconite and iodine followed with internal administration of two drops of tr. aconite, repeated every one or two hours.

Question 31. *Cavity in molar, filled with amalgam, after a few years' use operator excavates; tooth somewhat sensitive; nerve exposed and capped—tooth filled. A few days after, large abscess and suppuration of pulp result.*

"A" contends that the operator has killed the pulp while operating, and that the new filling has produced suppuration.

"B" contends that, admitting its possibility, there is no reason to believe the tooth contents may not have been in a dying condition, from old filling being near the pulp. Which is correct? G. B.

Your highly flattering remarks preceding your question (not published) have "knocked the wind all out" of our modest sail. Thanks!

To answer your question without examining the tooth and capping is like exchanging knives in the dark. We must admit that the first amalgam filling remained a few years before abandoning its residence, and taking it for granted the filling remained during that time without trouble, and that the tooth contained a living pulp at the time of second operation, we cannot attribute the death of pulp to "A," though the pulp may have been in a dying condition, from loss of filling and exposure attending that loss, at the time the tooth was filled and treated by "B."

If "B" treated and filled tooth to the best of his ability, he has both feet on the floor. The capping of exposed pulp is not a success in all cases, and there is a percentage of loss, governed somewhat by circumstances and constitutional tendencies, that must be taken into consideration by patient and dentist, and a request to return for treatment should be expressed, if symptoms of inflammation are indicated.

"A" has no ground for complaint, if "B" has done his duty, and we advise them to shake hands and hold a consultation.

No physician can guarantee a patient everlasting life, and no dentist can promise success in treating diseased or exposed pulps, when teeth have been too long neglected at time of filling or when previously filled by a fellow-practitioner.

Question 32. *A gentleman of forty has lost all his teeth but the cuspids and first molar on right side. He would not wear a plate, so I put in a bridge consisting of four front and one bicuspid on each side—space between the cuspid and molar not large enough for two. The teeth were backed with platinum, and gold coin was flowed over it, and gold crowns placed on the three natural teeth for support. The patient complains of his mouth becoming dry, and his lip sticks to the front teeth. What can be done?* J. J. L.

The cause of dry mouth and lip sticking to teeth may be attributed to many causes—a peculiar condition of the system; the secretions of the mouth; galvanic action; prominence of artificial teeth; irritation producing dryness from inflammation. The lack of support on left side of mouth, for bridge, will allow it to spring (unless it is well anchored to cuspid) in mastication which might cause irritation.

This question requires personal diagnosis, and a definite answer can not be given from a description of case.

T. B. R.—You will find answers in May ITEMS, under Question 12, page 307, and page 304, touching your question. We do not think you can cure the case after so long standing

Dr. Riggs' remedy is successful in many cases. See formulas on page 136, March ITEMS.

KIND WORDS.

DEAR DOCTOR:—*Allow me to thank you for the good work you are doing for us in getting up the "Question Department." It is one of the most interesting and instructive features of the* ITEMS.

W. P. L.

[ANSWER.]

DEAR FRIEND:—Kind words gladden our thorny path in life and make us happier and better men. These little expressions of kindness do not make us vain or important—they, too, often show how little deserving we are of them, and how incompetent we are to fill the places we attempt to fill. We thank you for your kind remarks, and trust you will overlook our faults in the future as in the past. E. N. F.

Dr. Bogue says granulated chloride of zinc is excellent for obtunding sensibility. He says: "I find where the patient is extremely timid, if I wish to get rid of sensibility, and have not the fear of destruction of the pulp, a little pure cocaine, or rather cotton dipped into carbolic acid, and then into powdered cocaine, will obtund the sensibility enough to put in granulated chloride of zinc with little pain. It deliquesces very speedily. In a minute and a half the insensibility of the cavity is often complete. The granulated chloride of zinc is quite fine. It will stay in that condition just a little while. You keep it in a hermetically sealed bottle. You can put a grain or so into smaller bottles at a time, but it will deliquesce and get into solid masses very quickly."

Dr. Dwinelle says: "I recommend chloride of zinc for sensitive dentine. I not only recommended using the salt pure, but enforcing its effectiveness by heat. I have steel bulbs of different kinds, which, after heating, are put into the cavity and literally cook the inside of the tooth. This can be done with impunity. I have never lost a nerve by the use of it."

Notices.

"DENTAL JURISPRUDENCE." By Wm. F. Rehfuss, D.D.S. Published by The Wilmington Dental Mfg. Co., Philadelphia. Price, $2.50.

The wonder is no such treatise has been published before. Now we have it, it is at once received as one of the indispensables. It is gotten up with so much care, discretion and intelligence, there is no doubt of its becoming popular, useful, and for the use of lawyers and litigants specially serviceable. No wonder such dental professors as James Truman and C. N. Peirce, and such a legal authority as Alex. Durbin Lauer, Esq., with dental editors and prominent dental practitioners, have taken a personal interest in it.

As stated in his preface—"In dentistry, as in medicine, jurisprudence must eventually become an important subject of education, not alone [only] to explain the nature of the different legal liabilities for which the dentist is answerable or the legal consequences of dental malpractice, but to point out to the student and caution him against his dangers."

The remarks and legal quotations Dr. Rehfuss gives us on the difference between ordinary and expert witnesses, and the obligations we are under to the civil courts, are well chosen. The cases cited, to show the importance of dental evidence and, we may add, of keeping accurate charts of work and casts of dentures, are especially timely.

But, to refer to all the various sections of this work would make our notice too long. The subject is so important, however, we may refer to it again.

The Michigan University is really becoming the leading university of the country. The calendar for 1891-92 shows the total actual attendance is 2,692, which is 34 more than Harvard. The literary department has 133 undergraduates, 49 resident graduates, 37 studying in absentia, 6 students in other departments, and 1 holder of Elisha Jones' Classical Fellowship.

The total in the other departments are: Medical, 370; law, 658; pharmacy, 81; homeopathic, 79; dental, 188; total enrollment, 2,706; which leaves 2,692 actual students after deducting 14, who are twice enrolled.

The students come from every State and Territory in the Union, except Georgia, New Mexico and Nevada. Fifteen foreign countries are represented, Japan, Syria, Bulgaria and South Africa.

being included. Michigan leads with 1,322 students; Illinois second, with 322; Ohio third, 214; Indiana fourth, 118. The Illinois students are entered as follows: Literary, 219; medical, 18; law, 68; pharmacy, 9; homeopathic, 1; dental, 7.

The Southern Dental Association will be held at Lookout Mountain, Chattanooga, July 26th. The hotel accommodations, both on the mountain and in Chattanooga, are ample and reasonable in price. The historic associations and scenic surroundings make Lookout Mountain the most attractive place that could be selected. Its central location, both geographically and in railroad facilities, is unsurpassed. The arrangements for the comfort of the dentists visiting the meeting have been looked after by the local committee. *S. G. Holland, Chairman, Atlanta.*

The next meeting of the New Jersey State Board of Examiners will be held at the Commission Rooms, No. 88 Broad street, Elizabeth, N. J., on Monday and Tuesday, July 18th and 19th. Candidates will please file their applications with the Secretary before July 5th. Blanks and information furnished on application. *G. Carleton Brown, Secretary, No. 88 Broad St., Elizabeth, N. J.*

The thirty-fourth annual meeting of the Indiana State Dental Association will occur June 28th, 29th, 30th, at Lake Maxinkukee, Ind. The State Board of Dental Examiners will meet at the same place and time. All dentists and physicians cordially invited to attend. *G. E. Hunt, Secretary, Indianapolis.*

The twenty-eighth annual meeting of the Illinois State Dental Society was held at Springfield, May 10th to 13th, 1892. The following officers were elected for the ensuing year: President, E. K. Blair, Waverly; Vice-President, C. N. Johnson, Chicago; Secretary, Louis Ottofy, Chicago; Treasurer, W. A. Stevens, Chicago; Librarian, F. H. M'Intosh, Bloomington. The next meeting will be held at Rock Island, the second Tuesday in May, 1893.

Louis Ottofy, Secretary, Masonic Temple, Chicago.

The Minnesota State Dental Association will hold its annual meeting July 13th, 14th, and 15th, at Minneapolis.

L. D. Leonard, Secretary, Minneapolis.

The thirty-second annual session of the American Dental Association will be held at Niagara Falls, N. Y., commencing Tuesday, August 2d. *Geo. H. Cushing, Recording Secretary.*

For Our Patients.

"WANTED—A BOY."

"Wanted—a boy." How often we
These very common words may see.
Wanted—a boy to errands run,
Wanted for everthing under the sun.
All that the men to-day can do
To-morrow the boys will be doing, too,
For the time is ever coming when
The boys must stand in the place of men.

Wanted—the world wants boys to-day,
And she offers them all she has for pay,
Honor, wealth, position, fame;
A useful life and a deathless name.
Boys to shape the paths for men,
Boys to guide the plow and pen,
Boys to forward the tasks begun,
For the world's great work is never done.

The world is anxious to employ
Not just one, but every boy
Whose heart and brain will ever be true
To work his hands shall find to do.
Honest, faithful, earnest, kind;
To good awake, to evil blind;
Heart of gold without alloy,
Wanted: the world wants such a boy.

—*Chicago Blade.*

A LIGHTNING JERKER.

I have a very dear friend—by dear I mean expensive—in Detroit, whom I love, but whom some day I shall kill, taking advantage of the fact that the kind-hearted State of Michigan does not hang a man for murder. Even hanging would be a mild and simple process compared with the torture my friend inflicts, for he is a dentist.

Dentists are like death and taxes. We hate to meet them, but we have to. Procrastination is the thief of time, but it makes the fortune of the dentist. Everybody postpones his visit to the dentist to the last possible moment, but the dentist smiles and knows he can wait, for a fifty-cent job on a tooth speedily develops itself into a $10 séance. Waiting means wealth in the pocket of the dentist, and agony in the mouth of the patient.

One of the things that endears my dentist to me, but which will ultimately lead to his sudden taking off, is a habit he has of running what appears to be a red-hot wire up a tooth cavity and then asking me blandly if it hurts. I take this occasion to let him know for all time, that it *does*. I am willing to make my affidavit on that and have often, in his presence, sworn to the accuracy of my statement. Although he is a deacon in a church, he says that for ten feet around his dental chair he allows the victim to use any language that seems to fit the occasion, and that, when you come to think of it, is very thoughtful of him.

My dentist is exceedingly fond of electrical devices, and always has some new kink in that line for taking an unsuspecting nerve by surprise. All around the chair of torture there buzz various kinds of electric whirligigs that make so many thousand revolutions a second. These inventions of the evil one scallop out a hollow tooth, or twist up a nerve, or shatter some part of man's dental anatomy with a suddenness that leaves him no time to protest.

I had brought with me a tooth that was of no further use to me and I wanted it out.

"What new electrical infernal machine have you put in since I was here before?" I asked the dentist.

"Sit down and see," he said. He touched up the tooth a bit and then remarked: "It will have to come out."

"I know that. I suppose I shall have to take the gas, but I don't like it."

"I can give you electricity instead. That won't hurt you."

"The electricity or the pulling?"

"Neither."

"Will I become insensible?"

"Not in the least."

"And you say it won't hurt?"

"It won't."

"I don't believe it."

The dentist laughed.

"Let us see how much electricity you can stand," he said.

The ends of the chair-arms were of polished silver, and these he told me to grip firmly.

"Now," said I, getting just a trifle frightened, "no Kemmler business, you know. Turn this on easy."

He did so, and the sensation, as the fluid gradually got in its work, was not unpleasant.

"That's all right," he said at last; "you stand it first rate. Now, will you have the tooth out?"

He first put a rubber tube on each of the handles of the forceps—the ugliest instrument on earth. Then he connected a wire with the steel handle.

"I'm ready, if you are," he said.

"Oh, don't be in such a deuce of a hurry. I've lots of time, even if you haven't. Now, I want to understand the principle of this thing. Do I get a shock in the head?"

"Not in the slightest."

"No stunning effect or anything of that sort?"

"Certainly not."

"Then how is it, if I am not insensible, that I won't feel the pain?"

"Because, when I put this instrument on the tooth the current deadens the nerve for about seven seconds. In that time the tooth is out. Will you try it?"

"I will. But if your theory slips a cog, prepare to die."

It didn't hurt the slightest, and so the dentist still lives.

—*Detroit Free Press.*

TOOTH NODULE.

Dr. Smith says: I had a case where the patient had been treated by a physician, who had also called in another physician to assist him in his diagnosis. This patient had suffered for two weeks before I saw the case with severe neuralgia on the right side of his face, extending down the neck. He said he had "suffered the tortures of the damned," and I fancy he had, till finally the physician advised him to come to me. The mouth presented this appearance: The wisdom-tooth, the mesial portion of it, was struggling to get through; the second molar had a proximal filling of cement, not very large; the second had been extracted. While the physicians hardly believed the neuralgia came from his teeth, yet they thought possibly the erupting wisdom-tooth might be sufficient cause, and they had lanced that thoroughly. After talking with the patient some time, I concluded that the possible trouble was a pulp-stone in the second molar. I explained to him my suspicion, and advised him to have the cement filling removed and see what we could find. The filling was removed; I drilled carefully into the pulp-cavity and found there a little nodule of secondary dentine. It was detached, so it acted like a shot, resting right on the cornua of the pulp. I removed it and dressed the cavity. The patient came in the next Monday and thanked me very heartily for the relief he experienced.

WOMAN IN DENTISTRY.

[REPORTED.]

A woman dentist is, to many people, still a curious anomaly, even in this advanced age of the world, and in this city of Philadelphia, where there are more women successfully practicing dentistry than in any other city in this country, or, perhaps, in the world. "Doctor, do you really pull teeth?" is the question still frequently asked, in tones of incredulous amazement, of one of our most experienced lady dentists, in spite of the fact that women have been satisfactorily extracting teeth in this city for sixteen years.

But then it must be considered, that out of the four hundred and forty-three practicing dentists of Philadelphia, only ten (besides recent graduates of the two dental colleges here, who number about as many more), are women; while the total number of women dentists in the United States is only about sixty; though it is over twenty years since women entered this field.

The profession has grown much more popular with women, however, especially during the last five years. There has been a marked increase in the number of lady students, and the general public is taking more kindly to the idea, as well as to the fair practitioner herself. Parents, too, are waking up to the necessity of fitting their daughters, as well as their sons, with a profession, and dentistry offers a good field for a livelihood; so say those who have tried it.

It is difficult for the average individual to associate the idea of profound learning and scientific attainments with the fresh, fair countenance of an unassuming girl graduate, even when the bright eyes look up at you through gold-bowed glasses, and you have ocular demonstration that she is skilful to the tips of the dainty white fingers that can quiet a throbbing nerve, plug a cavity, or wield the forceps, if need be, as deftly as any bearded D.D.S. of them all.

"If you were tall and lean now, I could call you 'doctor,'" said a gentleman, recently, to one of our bright young lady dentists, in apology for his blundering persistency in addressing her as Miss, instead of by her professional title.

I need not say the Philadelphia woman dentist is neither tall nor lean, but having interviewed the majority of them personally, can testify that they are, as a rule, both young and fair, which may explain why the average limit of a woman dentist's professional life is five years. Then, usually, she gets married, changes her name, drops out of sight, and is forgotten, in most cases.

Another objection formerly urged against the woman dentist

was that she was too sympathetic—too much averse to giving pain to do effective work. It certainly hurts a sensitive woman to inflict pain, but she gets used to it after awhile, as more than one fair D.D.S. assured me, and sympathy does not prevent her doing her work properly. On the other hand, this very quality attracts to her the nervous and sensitive of both sexes, and not only women and children, but grown men will more readily submit a tender, troublesome tooth to the gentle ministrations of a woman than to the harsher manipulations of the sterner and less sympathetic sex. Indeed, men, I am told, are even more likely than women to apply to a woman for dental treatment, women being, as a rule, more prejudiced against their own sex.

Lady dentists stand firmly by one another, and their severe code of professional ethics is inviolable. They hold the interviewing fiend in disdain, and an unlucky reporter who lately undertook to interview these fair doctors was "sat down on" with a promptness and unanimity well calculated to intimidate a would-be successor. It was therefore with no little trepidation that, resolved to know whether woman had yet found or evolved for herself any special niche in the dental profession, I essayed to personally interview these resolute and independent ladies; and by observing great circumspection in my interrogatories, not only obtained their good graces, but also gleaned some information of interest both to the lay reader and the professional.

Philadelphia may fairly claim to be the headquarters of the dental profession in this country. Her two splendidly equipped colleges, the Phiadelphia Dental College, on Cherry street above Seventeenth, and the Pennsylvania College of Dental Surgery, at Twelfth and Filbert, both of which admit women on equal terms with men, receive pupils not only from all over the country, but from all parts of the world. Twenty-eight years ago, the Pennsylvania College graduated the first woman dentist in the world, Mme. Hirschfeldt, who became dentist to the family of the late Emperor of Germany.

Dr. Anna Ramburger, who practiced dentistry here for fifteen years, was the second woman graduate of this college. She had an elegant practice, and made plenty of money before the profession lost her through marriage. The first woman to graduate from the Philadelphia College was Dr. Josie DeTehon, since married, who graduated in 1880. Of the two, the Pennsylvania College graduates more foreigners, while the Philadelphia graduates more Americans. The Ohio and the Ann Arbor are the only colleges of dentistry in the country, outside of Philadelphia, that admit women.

The majority of the women dentists who have located in this city are graduates of the Philadelphia Dental College. Among these are Dr. Maria Lasser, who is connected with the Women's Homeopathic Association Hospital, and Dr. Hannah J. Mercer Miller, of the Woman's Hospital, where she has had charge of the dental clinic for the past three years. Dr. Miller has had more experience in pulling teeth, probably, than any other woman in the country, this being the principal work of the clinic. Two of the graduates of the Pennsylvania College are also practicing here. A movement is on foot to organize a woman's dental association to comprise all the women dentists of the country, and an exhibit of woman's dental work for the World's Fair is likewise talked of.

FAIR STUDENTS FROM ABROAD.

At the Philadelphia Dental College there were ten ladies in attendance last year, five of whom graduated. Among the graduates was Mme. Marie Pedemonte, an Austrian of rare beauty, and Miss Gertrude A. Bright, a niece of the famous John Bright, of England, who proved herself as bright by nature as by name. The college course is divided into two parts—one in which the general principles of medicine and surgery are taught, and in the other the details of dentistry proper. Every process of value known to mechanical dentistry is taught in the laboratory, which is the largest workshop of its kind in the world. The increasing number of lady students has justified the faculty in arranging apartments for their special accommodation. They have their own club room, where they can meet for study or converse apart from the gentlemen.

At the Pennsylvania College twelve ladies matriculated last year, five of whom are from Europe. This college, now in its thirty-sixth year, graduated three ladies last year and about double the number this year. Dental students must dissect the head, but are not required to do anything further in the way of dissecting. The general attitude of the men toward their fair competitors in the dental profession is friendly.

There used to be much opposition, and women have had to fight hard for recognition; but the situation has greatly improved even in the last four years. "We were treated very nicely at the college," said one lady practitioner who graduated in 1888; "the gentlemen were very kind and courteous."

Both sexes are examined together, and women are admitted into full membership in the dental societies. Still it is the men who are supporting the colleges at present, and women are admitted, after all, only on suffrance. "It seems hard for either the professors or the male students to realize that the women really

mean business," complained another fair D.D.S. "They seem to take it for granted that the study of dentistry must be more a matter of amusement than a serious pursuit to women. In a distinctively woman's college this difficulty would, of course, be obviated."

Dr. Lasser likes dentistry better than medicine. She looks well and happy, and thinks the world is growing more liberal and more good-natured. Dr. Miller thinks dentistry compares favorably with medicine, not being so exhausting in its demands on time and strength, though a physician does not need to exert himself in office work as a dentist must. Dentists, like physicians, it seems, are often called on to attend at their own homes invalids needing prompt relief from suffering teeth; but most of their practice is, of course, office work.

The lady dentists are unanimously of the opinion that dentistry is a good and growing field for women, especially in Philadelphia. It is a profession in which women are generally successful. "Dentistry is a lovely field for women," said one enthusiastic practitioner; "after the first year it pays well." "It is not so fatiguing as tending a store, or sewing all day," said another. "There is more variety about it, and no position in a store will pay as well as dentistry," says still another who has tried nearly everything that a woman can do.

"So you think dentistry is the thing for women?" I asked one fair practitioner who has been in the field six years, and likes it better all the time.

"It is the thing for some women," was the reply; "those who have good nerves and executive ability. Its demands on the energies are arduous, and I would not advise any woman who is not strong to go into this profession."

All agree that dentistry requires coolness and steadiness of nerve. A frail, nervous woman has no leaning toward or fitness for this profession. Good health is especially needful for a dentist, as so much of the work must be done standing. Dr. Miller, for instance, is kept busy on her feet sometimes from nine in the morning till six in the afternoon, without intermission, though hers is doubtless an exceptional case. She has all classes of patients, men, women, and children, though she makes a specialty of children's teeth. She considers skill more requisite than strength in extracting teeth. Good eyesight is also very desirable to avoid the necessity of inhaling every variety of breath. The average life of a working dentist, she says, is from fifteen to twenty years.

Office rent is very high, almost the rent of a whole house being demanded, in some cases, for two good-sized rooms for dental

purposes. Dentists, it would seem, are popularly supposed to be made of money. About the same proportion of women dentists do mechanical work as among the men, but no woman has as yet made a specialty of mechanical dentistry.

WOMEN AND CHILDREN AS PATIENTS.

As might be supposed, most of the lady dentists' practice is among women and children. Many of the latter are mortally afraid of a male dentist, and it requires all a woman's gentle tact and winning ways to soothe their apprehensions and reconcile them to the dreaded ordeal. The general opinion is that children are brave and, as a rule, bear pain well. One lady says she never has any trouble with children in the dental chair; she loves them, and they do not mind being treated by her.

As to the relative endurance of men and women in the dental chair, opinions differ. Some assert that men are as patient as women; others, that men have less patience and are more fractious. Men do not like to be hurt, says one lady who declares she has seen them as pale as death from nervousness, and has known a man to suffer distress and annoyance for years because he could not screw up his courage to go to a dentist. Stout people have not always the strongest nerves, and some are very trying to the patience and exhausting to the strength of the practitioner.

I found Dr. J. E. Garretson, the genial Dean of the Philadelphia Dental College, quite an enthusiast on the subject of women in dentistry. "I will say this for them," said he, "as a rule, their examinations are of the highest order. They take a great interest in the study, and are unsurpassed by any of the male students.

"Dentistry, moreover, is not that of the olden time. Dental work is being divided into specialties, and a lady need do nothing but operate on the teeth. Special surgical cases are sent to surgeons; she need not dabble her dainty fingers in gore. The mechanical work, too, is nearly all done outside the office; beyond taking impressions, she need do nothing of it. She learns, of course, how to do all these things; but need never practice them. Women are taught all the technique of mechanical dentistry, but usually do only the office work. They are not generally found extracting teeth, which is likewise done by specialists. The lady dentist confines herself exclusively to the treatment of teeth in the mouth.

There is nothing better than the practice of dentistry as a woman would practice it, for a self-supporting woman. There is no occasion for the lady dentist ever to labor more than five hours a day, and she will receive greater pecuniary compensation than the physician. She has thus abundant time left for other interests and

pursuits. Some of the most charming women I know are in dentistry, and devote their leisure to music, literature, etc., often winning distinction in these pursuits also.

"We have every year an interesting class of ladies, but they mostly insist on getting married soon after graduating.* Only those women should take up dentistry who mean to remain single, at least five years. Some never get into practice, however, they marry right away. In the dissecting room the lady students are as refined and delicate as it is possible for a woman to be. Though they work in company with the gentlemen, I have never known anything unpleasant to occur. These ladies are often found also, giving their kindly attention to patients operated on in the hospital, gaining for themselves greater knowledge and returning for this acquisition the good that comes from woman's tender ministrations in the many soothing ways that are instinctive with her. They are an unspeakable comfort both to the patient and the surgeon."

It is interesting to observe the woman dentist at her work. The deft, neat, capable, but gentle way in which she goes about her business would inspire confidence in the most timid. It is not natural for women to keep silent long when together, so the work progresses amid a cheery, bird-like twitter of chat and comment between patient and practitioner—not wholly suspended even when the former is gagged into silence, that is essentially feminine, and goes to prove that the young woman is never lost in the dentist—scientific, skillful, and successful as she undoubtedly is.

THE BILL AS ITEMIZED.

Patient:

"It seems to me the bill should be
Proportionate to the work;
A dollar and a half seems rather high
For giving a tooth a jerk."

Dentist:

"When you see the bill as itemized
'Tis none too large, I vow;
There is fifty cents for the jerking
And a dollar for knowing how."

—*St. Paul Pioneer Press.*

* And yet having a skill that will give them an independent, honorable, and lucrative support if circumstances arise requiring it, is very desirable.—Ed. ITEMS.

Current Notes.

It is the well done of to-day that prepares us to do better to-morrow.

Gutta-percha should never be softened for use by the direct heat of a flame, but by heat on a tray over steam or hot water.

It is in the intelligence and thoroughness with which we do the little things of life that we acquire the ability to do great things.

In using chlora-percha in root cavities, if the chloroform evaporates too rapidly, add a little oil of cinnamon, or wintergreen, and it will remain soft a long time.

EMERGENCIES ARE OFTEN THE MAKING OF US.—One day in 1830, a working jeweler, Joseph Gillott, now the famous steel penmaker, accidently split one of his fine steel tools. Being suddenly required to sign a receipt, and not finding his quill pen at hand, he used this split tool as a ready substitute. This happy accident led to the idea of making pens of steel.

In regulating teeth Dr. Dwinelle uses copper-wire. "I connect the loops," he says, "by a tiny bit of solder, and in that way have much greater efficiency than under ordinary circumstances. Each time you commence *de novo* you are solid from the foundation. Loops thus connected facilitate and give permanency to the operation of wiring the teeth.

It is not strange that new words should be sought to better represent new phrases, processes, subjects, and objects in dentistry and in other professions and sciences and departments of study and industry. But all those suggested are not desirable. The editor of the *Cosmos* has such an undesirable word for the occluding surface of the molars and bicuspids. It is "morsel." It is nonsense.

John S. Marshall, M. D., advises persons of sedentary habits as follows: "Get out into God's free air, drop all thought of your profession, leave the disagreeables behind you, and become for a little time a boy again." I have taken the doctor's advice, and find it beneficial and true, excepting the boy part of it. For the life of me I can't stifle the ever present conviction that I have gray hairs and plenty of them.

THE CHINESE TO THE FRONT AGAIN.—The longest span of telegraph wires in the world is to be found in Cochin, China, crossing the river Mekong, and the longest span of telephone wires, in England. It happens to be a portion of the wire crossing the river Dart, and connecting Dartmouth with the trunk lines between Torquay and Plymouth. The span of the former wire is stated to be 2,560 feet, and of the latter 2,400 feet.

A young blacksmith, whose wife had presented him with their first baby, was horrified to find that the infant had been born with teeth. So unusual an event must be unlucky; so poor baby's teeth were drawn by the unskilled hand of the blacksmith. The baby died, and the mother, shocked and grieved by the scene, died soon afterwards. "But sure, he'd never have had luck or grace if them unlucky teeth hadn't been dhrew."

MENDING A FRACTURED TOOTH.—Dr. Grant says: Two years ago a case came to me of fractured upper bicuspids. They had ached and were exceedingly sensitive; drawing an excavator between the two cusps was excruciating.

I put a simple gold band around them, and the teeth have been used continuously since; but the point of the excavator at the fractured line produces as great a shock as when the fractures first took place.

Pental, the new anesthetic, is tri-methyl-ethylene, a tertiary amylene obtained by heating amylene hydrate in the presence of acids. Some believe this ether will take the place of chloroform and the common ether, as more safe, pleasant and less depressing, without producing nausea or other evil symptoms. Its effects are more speedy than even gas. Prof. Hollaender, of Germany, says: "We have in pental one of the safest, surest, and most pleasant anesthetic as yet brought before the profession."

The use of gold and amalgam together for filling teeth is indorsed by many prominent dentists. Dr. Eames first fills with amalgam, and after it has hardened, removes a certain portion of it and completes the filling with gold. "I am quite sure," he says, "that when gold is placed in connection with amalgam, even though that has been in position two or three days, it controls subsequent changes in the amalgam," and that "such fillings do not crumble at the edges, or show the characteristic failures of pure amalgam.

Dr. Wilson, of Falls City, Neb., gives an interesting instance of toothache from an exposed pulp that baffled the skill of physicians for three months. Antidotes for neuralgia of the face and head, and then of the stomach, and finally chloroform and other appliances to prevent utter prostration, were unsuccessfully used, when a moment's attention from a dentist would have determined the cause and found the remedy. "But these dentists," you know, "are not a professional body, and it will not do to consult them as equals." When will physicians learn wisdom?

Dr. W. H. Dwinelle says: I think our code of ethics has been tinkered with too much, without reaching a satisfactory conclusion. General principles of equity and common sense should be a sufficient guide to us in our relations with each other. I am reminded of some advice given me by my father at the outset of my career, and of one thing which I consider particularly wise, when he said, "Remember, nothing is settled till it is settled right, else you must go back and revise it." I think we are too apt to be governed by prejudice and feeling, and thus allow the interest of the profession at large to be sacrificed to personalities. In so doing, I think we pay too high a compliment to the individual against whom our prejudice is directed. What we need is more breadth, more liberality, more charity, more consideration for the cause.

Dr. Brunton, in an address lately reported in the London *Lancet*, was cautioning his hearers—the members of a medical society—against hastily expressed opinions as to the nature of patients' diseases, and emphasized his warning by two professional anecdotes. He was once present at a clinic, the subject of which was a man evidently suffering from some disease of the heart. An unnatural murmuring sound could be heard from that organ, and the pupil of one of his eyes was very much dilated. The peculiar appearance of the eye seemed to have some connection with the cardiac affection, but various opinions were expressed by the different students as to what the precise nature of this relation could be. The discussion was just becoming interesting, when the patient remarked that his strange-looking eye was made of glass! At another clinic, the professor in charge was discussing learnedly about the importance of attending to minor symptoms. "Now, gentlemen," he said, "in the case of this woman here, certain things could be confidently affirmed from the condition of her teeth." He was proceeding to particularize, but just then the patient broke in on him. "Please, sir," she said, as she took out her teeth, "I will hand them 'round; the young gentlemen might like to look at them closer."

Editorial.

A LITTLE ADVICE TO BEGINNERS.

Nowadays it is difficult for a beginner to select a good location for dental practice and make a right estimate of his future. A few hints may help.

1st. Of course, much depends on previous practical experience, however much one may have learned of theory at college. Some young men may open an office in the midst of a great competition and succeed, but most must go lower and come up to such places step by step. Many a beginner has been forever discouraged by attempting at first too high a sphere.

2nd. Much depends on his finances. To do good work we must have a good outfit, and to be popular we must have a good office and a professional appearance. If this cannot be, then begin modestly among the lowly, and work up. However little you get, save some, and however lowly in your beginnings, make continual improvements. I commenced with a common rocking chair and fifteen dollars' worth of instruments.

3d. If possible, seek a location where you will be welcomed, and not where you must wedge yourself in. It is well to have push and determination, but there must also be discretion. There are always some vacant places, or localities occupied by one you are conscious is your inferior, or who habitually neglects his business, or is generally or specially offensive.

4th. Measure yourself up critically, truthfully and severely, and seek a place you are conscious will fit you, or that you can make yourself fit. Be not too modest and get too low, nor too high-minded and get too high. There is a place for every one, and when one gets in his place he is pretty sure to succeed. Not that you must remain what or where you are. Commence to climb as soon as you commence to live; but be willing to feel your way cautiously and climb slowly. If you are genial, faithful and skillful you will get there, but you must grow to it. You may hurt yourself if you try to jump to it at a bound. Blessed is the young man

who can rightly measure himself and keep growing out of his clothes.

5th. While your office and surroundings should be always neat and clean, be not sensitive to its want of richness, if you are not rich. If it is wholesome, comfortable and homelike, and not noticeable for a lack of or a superfluity, it will do. Some women look all the better in a plain dress, some pretty women look outlandish in gaudy apparel. Don't try to appear what you are not, but do try to appear every inch a professional man that you are.

6th. Do not be discouraged when you discover that your attendance at college, your book knowledge, your carefully collected theories, your costly parchment and your conceit, fails to make you a good dentist. You will often find it difficult to reduce theory to practice, knowledge to experience, instruction to skillful manipulation, and even plain facts to every-day exigencies. There is quite a difference between head work and hand work, between the college and the office, between experimenting and practicing.

But do not be discouraged. Still be a student, and be thankful you have your object lessons before you. Prove all things; hold fast that which is good.

SLOW BUT SURE.

There are some men who cannot walk or work or live fast, though what they do they do well. Many years ago I knew a raw-boned, slow moving, precise man of this kind. He was about forty years of age, and therefore confirmed in his way. However such a person could have taken up the business of a printer was past my conception. He could hardly earn his salt at type-setting; and though he was so intelligent that he was also employed as assistant editor of the paper he worked on, it took him so long to write an editorial and to make up the paper, he was only so employed in the necessary absence of the editor-in-chief. He was a lamentable business failure. So completely that, at the age I name, he was obliged to send his wife and family to his wife's father, and live the life of an old grass widower. He boarded himself—if such a

fare as he had could be called board—and sent what he could to his wife. I pitied him. He deserved a better fate. He was slow, but sure to do well what ever he undertook.

One day, as I handed him a short article for his paper, he was eating his cold lunch. I said:

"Jones, why don't you do something at which you can make living wages? You are wronging yourself and your family."

"Yes," he replied, "I am almost discouraged. They say I am lazy; but I think I do all I can, though I own I am too slow and awkward to be a type-setter. In my younger days I took it up, hoping some day to be the proprietor of a newspaper; but I have long since given that up as an impossibility. I am not quick enough in thought or action; and yet I do not know of any thing at which I could do better."

"Well, Jones," I replied, "you certainly are lazy; wofully lazy; but it is no doubt constitutional. It is the way you are made up. All agree, however, that you are intelligent and conscientious, and do every thing with carefulness and precision. You ought to succeed at something, Jones. I observe that every week after the paper is out you have some leisure time, when you can come over and help me."

"Help you," he replied, "what do you mean? What could I do in your line?"

"Come and see."

"Good; I have little faith, though I will do any thing to earn an extra penny."

"You will not earn much, but you may learn something."

"You don't mean you could make a dentist of me?"

"Come and see; you may be able to do something at it."

"If I have an aptitude for mechanism of any kind, it has never been developed."

He came at his first leisure hour. I had just taken an impression for a set of teeth, and he was much interested to see the different processes of their manufacture. Nothing, he said, had ever aroused his curiosity so much as that had. Soon he came again, and this time I had a spoiled impression, I gave him to make a model from. He was a long time at it, but it was finally done.

And then he made an articulation. Both were wonderful feats of skill in his eyes; and though both were miserable failures, that I saved to show him when he should be able to do better, he thought them perfect. He was so observant and careful that it was not long before he could do all my laboratory work except arranging the teeth; and he finally did that quite as well as I could. For years he had a fine office of his own. He was slow but sure.

DISHONEST.

A man came to us in Vineland the other day, saying:

"I would like to sell you some of Welch's gold and platina alloy. I can sell it to you for one dollar an ounce cheaper than he sells it."

"Whose manufacture is it?" said my son.

"It is our own. That is, I represent a firm out West that makes it."

"But if it is your manufacture, how can it be Dr. Welch's?"

"It is the same. I will sell you the receipt for making it, if you wish."

"Will your firm warrant it to be the same?"

"Yes; that is, similar; as near as it is possible to make it. It would be difficult for you to tell it from the Doctor's."

"But you said it was 'Dr. Welch's.' If you have that at two dollars, I will buy a large quantity."

"Well, you will find it similar; you can hardly tell the difference."

"Sir, this is Dr. Welch's office, and I demand your authority for representing his alloy."

"My God! Is that so? Beg pardon," and he was out of sight before a constable could reach him.

Why can't the man find some legitimate business?

We have heard of him in several sections and we will catch him yet. Some packages have been received by us with our very envelope, printing and all, imitated.

The death is announced at Lyons of Pravaz, the inventor of the Pravaz syringe, the familiar instrument for the subcutaneous injection of morphine.

THE NEW CAST IRON RULE.

Let it be remembered that now all dental students must attend college three full years before receiving a diploma, whatever his previous qualifications, and whatever his attainments at college before the consummation of this time. The college is presumed to have determined that the dullest and most inattentive scholars,—especially those who spend part of their time skylarking and fooling and little of their time in thorough study,—require three years at college before being qualified to graduate. We think they are right, and that many of them are less and less qualified to receive their "deed of privilege" to call themselves "professors," the longer they remain. The atmosphere of many of our colleges must be purified before weak young men should be admitted even into the college, much less into the profession. But supposing this to be the motive for lengthening the time of college life, why should it be such an iron clad rule as to include the studious and the sharp witted, and those who have spent years in the study and practice of dentistry before attending college? Till recently, a diploma was given on merit, not time. It is so now in the profession of law. The question is not, How long have you attended college? But, Are you qualified to be admitted at the bar? It is not whether you have attended college at all. The gentlemen who stand guard at the door of the legal profession consider it none of their business where or when or how you became qualified, or how long or short the time you have been studying, but what do you know? Come before the Examining Board; if you are prepared to be admitted to the bar you shall enter. The University of Virginia, one of the oldest schools in the country, and a model school in all departments, makes this its standard yet, whether of law, medicine or dentistry. One of the most serious objections urged by those who have taken on the iron clad rule,—and perhaps the only serious objection assumed,—is that if some are allowed to graduate sooner than three years' attendance, many will be passed who are incompetent, and thus the college will be disgraced and the profession dishonored.

But has this been so with honorable dental colleges in the past? And is it so now with the University of Virginia? And dishon-

orable colleges will be dishonorable still. If this lengthening of the college course is to make the move remunerative, better increase the cost some other way. A person well qualified to pass after a single term, or even before attending at all, could better afford to pay the cost of a three years' course, than spend his time comparatively uselessly, and the incompetent should not be allowed to graduate at any time.

Professor Hodgkins, of one of our dental schools, says: "I am now teaching (?) a young man who is sitting with the freshmen, and who has to sit three years for his diploma, who is in actual ability as an operator, and in mental acquirements, the equal of almost any man I ever saw graduate. But the cast-iron law yokes him to the freshman, who scarcely knows an excavator from a spoon. Of course, it will be said that the young man in question should have gone to a college at once instead of with a preceptor. But who are you that have authority to say *how* he shall get his information?"

None but those who travel can realize the vast extent and rapid development of our country. Those who stay at home are apt to think the Northeast is its most prominent feature. The great Northwest is an empire of gigantic proportions, in which kingdoms within kingdoms of population, and wealth and varying resources, production and beauty are rising with a rapidity unknown in the history of the world. The Pacific Slope is not far behind.

But what has particularly astonished us of late is the wonderful development of the Old South. We were through parts of it fifteen to twenty years ago, and there was little life in it. Hundreds and thousands of acres of former plantations were growing up to pines, and the villages and cities looked desolate. We have just returned from a stroll through it again, and find everywhere life, energy, and material and social development. This is only a small part of our domain, and yet we made a travel of 3,000 miles, and the half was not visited. Truly we are a great country, and the developments of its mines show that its wealth is as much beneath as on its surface.